Teacher Identity in English-Medium Instruction

Teacher Cognitions from a Danish Tertiary Education Context

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PhD thesis

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Teacher Identity in English-Medium Instruction:

Teacher Cognitions from a Danish Tertiary Education Context

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Teacher Cognitions from a Danish Tertiary Education Context

Joyce Kling Soren

PhD Thesis
University of Copenhagen
Faculty of Humanities
Department of English, Germanic and Romance Studies
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Dedication

To my parents

Thank you for showing me
the true meaning of perseverance

“Be what you would seem to be - or, if you'd like it put more simply - Never imagine yourself not to be otherwise than what it might appear to others that what you were or might have been was not otherwise than what you had been would have appeared to them to be otherwise.”

Lewis Carroll: *Alice in Wonderland*

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Abbreviations

BICS	basic interpersonal communication skills
CALP	cognitive academic language proficiency
CALPIU	Cultural and Linguistic Practices in the International University network at Roskilde University
CBI	content based instruction
CEFR	Common European Framework of Reference for Languages: Learning, Teaching, Assessment
CIP	Centre for Internationalisation and Parallel Language Use
COME	Copenhagen Master's of Excellence degree programs at the University of Copenhagen
EAP	English for academic purposes
EFL	English as a foreign language
ELF	English as a lingua franca
EMI	English-medium instruction
FL	foreign language
IIE	Institute for International Education
KU	*Københavns Universitet* (University of Copenhagen)
KVL	*Den Kgl. Veterinær- og Landsbohøjskole* (former Royal Veterinary and Agricultural University)
L1	first language (mother tongue)
L2	second language
LIFE	Faculty of Life Sciences
NNS	non-native speaker
NS	native speaker
SCT	student centered learning
TA	teaching assistants
TOEPAS	Test of Oral English Proficiency for Academic Staff
UCPH	University of Copenhagen

CHAPTER 1:
Introduction

1.1. Background and Motivation

The purpose of this dissertation is to investigate the cognitions about professional teacher identity[1] that experienced Danish university lecturers[2] have in relation to the increasing demand for them to lecture and teach through the medium of English. The context is thus English-medium instruction (EMI) in tertiary education in Denmark. The informants are advanced non-native speakers (NNS) of English who use English in their professional lives on a regular basis to teach graduate level natural science. My goal in this study was not to evaluate the lecturers' competences, neither their English language proficiency nor their pedagogical skills, but to consolidate their personal reflections about their professional identity when they teach EMI courses. This project is thus rooted in teacher cognition studies with a focus on lecturers in science education (STEM[3] areas pedagogy). I have been motivated and influenced for this study by the work conducted at the Centre for Internationalisation and Parallel Language Use (CIP) at the University of Copenhagen (UCPH). Most specifically, the studies by Westbrook & Henriksen (2011) and Jakobsen, (2010), which sought to collect insights into teacher cognition issues related to the globalized classroom through smaller scale studies, have provided inspiration for both the focus of this study as well as the research methodology.

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[1] The concepts of *professional teacher identity* will be defined in the subsequent chapters. However, in this chapter, the terms *professional teacher identity, professional identity,* and *teacher identity* will be used interchangeably.

[2] In this study, 'lecturer' refers to associate professors and professors who teach at universities, specifically graduate level courses.

[3] STEM fields or STEM education is an acronym for the fields of study in the categories of science, technology, engineering, and mathematics.

In the following subsections, I present the general contextual issues related to English-medium instruction (section 1.2), as well as the instructional agenda at the Faculty of Life Sciences, where I collected data for this study (section 1.3). In section 1.4, I describe the language test used for assessing oral English proficiency at UCPH. In section 1.5, I summarize the purpose of this study. Finally, in section 1.6, I provide and outline of this dissertation.

1.2. English-Medium Instruction[4]

There appears to be agreement that the rapid expansion of English-medium instruction in higher education throughout Europe has its roots in several established motivations. Although not part of the initial agenda, the implementation of the Bologna Declaration (Wächter, 2008) and the increase of international exchange programs, i.e. ERASMUS, set off a chain of events across Europe with universities vying to attract more international academic staff and students. In small, non-Anglophone countries, arguments for this type of internationalization include the desire to prepare local researchers, lecturers, and students to become successful global players in international universities and in their professional lives. But, another key motivation for globalization is to generate income. Universities are now viewed as corporations governed by market forces (Coleman, 2006) with recruitment of international students on the agenda as they compete for enrollments and tuition money (Wächter, 2008).

The expansion of full degree programs, mostly at the graduate level, offered through English-medium instruction (EMI) has increased steadily since the adoption of the Bologna Declaration. Wächter (2008) outlines in great detail the distribution of programs across Europe, noting that the majority of offerings take place in Northern Europe, with the Nordic countries as strong performers (p. 19). The Institute for International Education (IIE) reports

[4] English-medium instruction has also been referred to as teaching in an English as a lingua franca (ELF) setting (Björkman, 2010).

that in 2012, according to data drawn from *MasterPortal.eu*, the Netherlands offered the largest number (812) of masters' degree programs in English, with Denmark (188) ranking tenth on the list of European countries (Brenn-White & van Rest, 2012). In 2012, Danish higher education institutions offered more than 500 degree programs and 1000 courses taught in English ("Study in Denmark," 2012). The vision for this type of development is clearly evident in the activities at the University of Copenhagen. At UCPH, for example, to attract funding, the Faculty of Science offers internet based master's and continuing education courses world-wide to attract 'global' participation and tuition paying students.

Naturally, providing broad scale programs in English is not without its concerns. With such rapid increases of EMI, concerns include 1) fear of domain loss of the national language, e.g., negative effect on dissemination of research knowledge in the national language – both in relation to technical terms and mastery of the academic language, 2) the development of students' post-studies professional language in the national language, 3) student drop-out rates and exam results, 4) reduced knowledge and use of additional foreign languages, and of course, 5) concerns about the effects on the quality of teaching and learning. Given these concerns, the international research agenda focuses on all levels of tertiary education (see chapter 2). Some current trends, for example, include research on:

- language policy (at local, national and international levels)
- academic staff: attitudes about EMI, lecturers' language and literacy knowledge and skills, teaching procedures, compensatory strategies, lecturers' reflections on practice, professional identity and expertise
- students: attitudes about EMI, students' language and literacy knowledge and skills, subject matter learning strategies, subject matter learning outcome, expectations and cultural understandings, student identity
- the multilingual/multicultural classroom

1.2.1. English Language Proficiency and EMI

There tends to be agreement that both students and teachers alike need to have a minimum level of English language proficiency for EMI to be successful in terms of teaching and learning. This specific level of proficiency, however, has been debated. Previous research

suggests that lecturers should have a minimum level of proficiency of C1 on the Common European Framework of Reference (CEFR), and students a minimum of B2 on the CEFR (Klaassen & Bos, 2010; Klaassen, 2001). It is vital, though, to emphasize that both teachers and students require not only general language proficiency, but also academic language proficiency and domain specific language knowledge.[5] More recently, the EMI research community has begun to discuss the elements concerning academic disciplinary literacy, in particular bilingual discipline literacy (Airey, 2009), and the needs of both teachers and students.

1.2.2. A Model of EMI

For the purpose of this study, EMI in Danish tertiary education is defined as teaching that goes on in English where the *content* is a substantive academic course. This is in comparison to content-based language instruction (CBI) (Brinton, Snow, & Wesche, 2003), where disciplinary content is used as a means to introduce language learning. The composition of EMI populations in Denmark can vary. For example, in the EMI classroom, the student population may be fairly homogeneous in respect to sharing the same first language (L1) and culture. But it is often more likely they are a diverse heterogeneous international mix of students representing different languages and cultural backgrounds. Regardless of their language or cultural background, the students are taking EMI academic, credit bearing courses for both full degrees or as electives. In this respect, the goals of the EMI courses parallel what I call *traditional L1 content instruction* (e.g., transfer of content knowledge, etc.).

To clarify some of the differences between traditional L1 content instruction and EMI, I present a comparative model in Figure 1.1. The model in Figure 1.1 illustrates differences

[5] In this regard, we can refer to (Cummins, 1979) model that differentiates between basic interpersonal communication skills (BICS) and cognitive academic language proficiency (CALP).

between the lecturer's language of instruction, the make-up of the student populations, as well as the challenges/goals for instruction in these two teaching contexts.

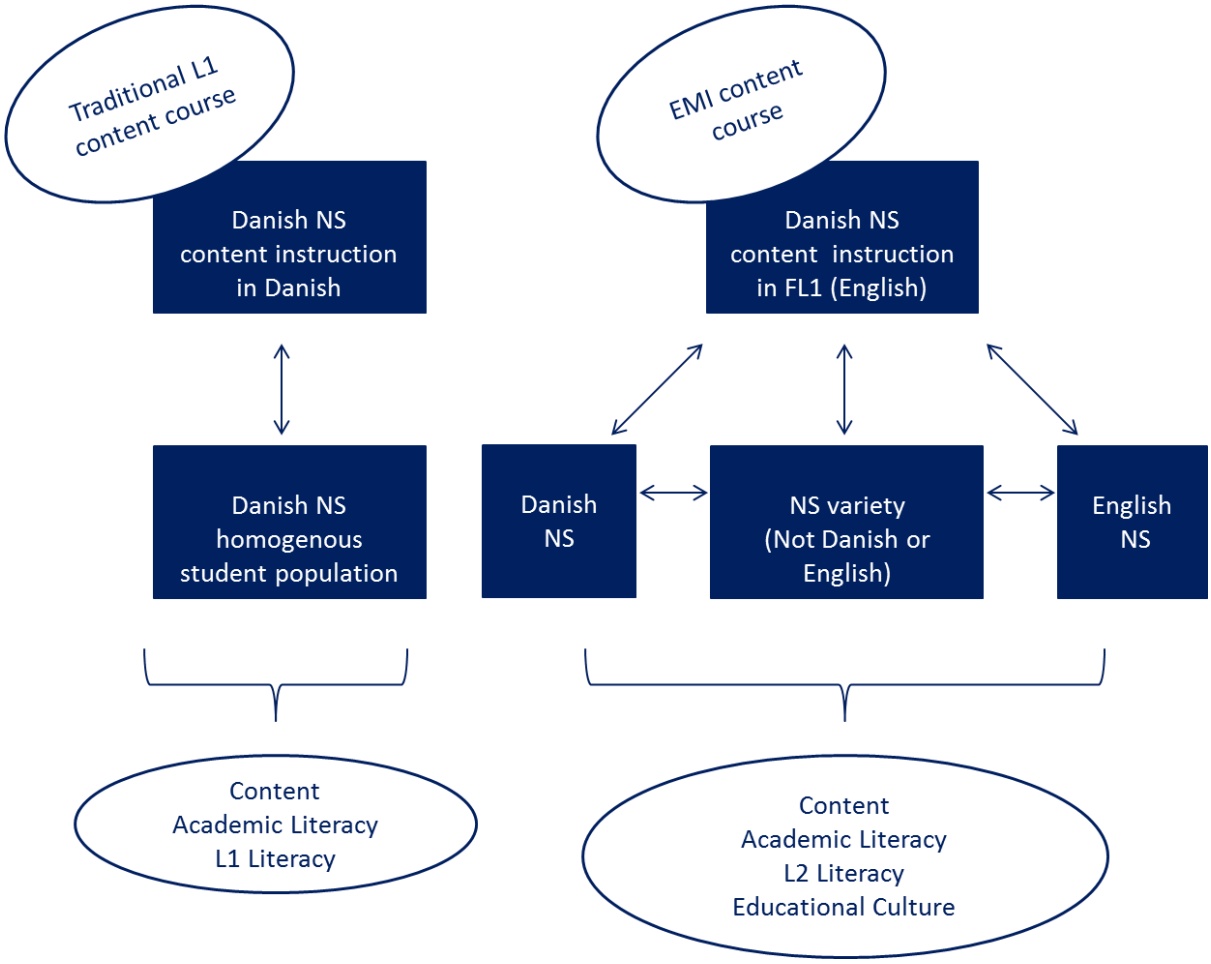

Figure 1.1 Comparison of Traditional L1 Content Course and EMI Content Course

Considering first the model on the left, we see a traditional L1 content course structure: a 'monolingual' classroom setting where the teacher and the students typically share a common L1 (the national language) and culture. The content course is taught in the national language

to a relatively homogenous group of students[6] who generally share a familiarity with the nationally defined educational system. In a small country like Denmark, this translates into a great deal of shared, tacit knowledge. Lecturers and students tend to have similar understandings of language, history, culture, and academic norms, i.e., as regards academic literacy. There is also a shared understanding of disciplinary expectations (Kragh & Bislev, 2008). For example, the Danish (and broader Nordic) educational system has a reputation for encouraging students to independently analyze, compare, and evaluate information. One of the overall goals of teaching is to enable students to consider ideas and theories from different perspectives and to form their own opinions. Through open discussion and the exchange of ideas between teachers and students, teachers promote the development of critical thinking skills, not just the regurgitation of facts and concepts (Hoelgaard, 2011). Since the teaching and learning in this context take place through the teacher's and students' first language in their own education setting, there is a great deal of shared tacit understanding. Thus, the goals, and perhaps challenges, for teachers in this setting are the transmission of new disciplinary content knowledge and academic literacy, e.g., the fluent control and mastery of discipline specific norms (Jacobs, 2004),. This training includes assisting students to acquire the disciplinary discourse (Airey, 2009), as well as the general academic training of the students as independent thinkers in a specific field of study.

In contrast to the traditional L1 content classroom model on the left, the EMI classroom model on the right illustrates the multilingual, multicultural environment, where the teacher and the students may or may not share an L1 and/or culture. Although the lecturer in the EMI setting is the same as in the traditional content classroom, i.e., a Danish L1 lecturer, the overall situation is quite different than in the L1 content classroom. To begin with, the Danish lecturer now teaches the course using his L2 (English). Next, the student population is different. Compared to the previous population that shares an L1 and culture, there are now

[6] In the traditional L1content classroom, student using the national language as a second language may be enrolled. For example, in Denmark it is not uncommon for students from Greenland, Iceland, other Scandinavian countries, as well as second and third generation Danes for whom Danish is an L2, to enroll in Danish universities and take Danish-medium courses.

three distinct groups in the class. The population now consists of: 1) Danish native speakers (NS[7]) who are NNS of English, 2) 'other' NNS of English (who are not NS of Danish), and 3) NS of English. In this heterogeneous mix, the teacher now only has shared background about the general knowledge of academic norms and expectations with a portion of the student population (the Danish students). However, even this shared background can become muddled since they no longer use Danish as the medium of instruction but work through a foreign language. Also, with English as the medium of instruction, all the players, both NNS and NS of English, are working on different levels of linguistic proficiency (general, academic, and domain specific) in relation to the language and literacy in the classroom.

Naturally, the same challenges noted above for the traditional content classroom still exist in the EMI situation, namely the demands for disciplinary content and academic literacy training. However, additional challenges in relation to language and culture are added to the list. For example, lecturers now must transmit their expertise in different ways to reach this very heterogeneous population. Although the lecturers still share a tacit understanding of the academic- and social culture with the Danish L1 students, many aspects of the didactics in the classroom must be negotiated in respect to the other two student groups. This is also the case in regard to language. Given the language proficiency entry requirements that exist for university enrollment, many assume that the students have an adequate level of English proficiency for academic success. However, there are inevitably differences in the students' language proficiency, particularly in the different skill areas. In some respect, the Danish students may have an advantage of linguistic and cultural understanding in relation to *Danglish* (SPROGPORTAL DK, 2013). That is, the Danish students may not be distracted by common Danish-English errors produced by the lecturer. The students may even understand the non-standard pronunciation and Danishisms, or Englishized Danish vocabulary, inserted by a less proficient lecturer, better than their classmates who do not speak Danish. Students coming from other cultures and languages, including native English speakers, may actually

[7] For example, this population may include those described in footnote 4 who have been educated in Danish as the medium of instruction.

be distracted and get confused in this context. In addition, there are differences in cultural- and academic interpretation between teachers and the variety of students, and among students. This can lead to challenges in the teacher-student chain of communication, not to mention student-student communication, as they work with each other across linguistic, academic and cultural differences. All these factors may result in a communication breakdown and loss of content knowledge dissemination and comprehension.

1.3. English at the Faculty of Life Sciences (LIFE)

As noted above, the EMI context in focus here is a Danish one. As previously mentioned, the use of English in this context stems from the globalization of the university and higher education in general. However, it is important to note that EMI in graduate level natural science courses began in Denmark already more than two decades ago, with the implementation of the Bologna process and the advent of international student exchange programs such as ERASMUS (and the like). In Scandinavia, this was an extension of a system that already required students to read the majority of their curriculum in English, due to limited access to publications in Danish. In the following sections, I provide some background information about the (former)[8] Faculty of Life Sciences (LIFE), where I recruited participants for my study and collected data, and the language policy LIFE implemented for quality assurance and support of students and teaching staff.

1.3.1. LIFE's Language Policy

In 2011-2012, LIFE offered 14 full MSc degree programs conducted in English. The faculty reported a 15% international student population (both full-time and exchange students), with

[8] In this dissertation, I use the abbreviation LIFE to refer to the Faculty of Life Sciences. However, in January 2012, LIFE was dissolved and became a department absorbed into a larger Faculty of Science.

approximately 75% of all MSc courses conducted in English. By any accounts, these are overwhelming statistics. The faculty's recruitment success is based on years of invested marketing.

Overall, LIFE has been a visionary faculty focused on globalization and internationalization for the past two decades. Already in 2000, in preparation for a shift to an English MSc curriculum from 2010, LIFE formulated a language policy. The language policy was drafted in 2000, when the faculty stood as an independent university called The Royal Veterinary and Agricultural University, in Danish abbreviated *KVL*. In January 2007, *KVL* merged with the University of Copenhagen and became the Faculty of Life Sciences (LIFE). More recently, in January 2012, LIFE merged with the University's Faculty of Science to form the new, extended Faculty of Science. According to their website, the main reasons for formulating a language policy in 2000 that included LIFE's 10-year implementation plan for broad, sweeping, EMI curricula were:

> *1: to ensure that our university actively contributes to the international competitive strength of our nation*
>
> *2: to ensure the employability of our graduates, not only in the Danish but also in the increasingly global job market*
>
> *3: to create an international research and teaching environment at our own university*
>
> *4: to ensure that our scientific reputation and attraction are of a standard that allows us to collaborate with the highest ranking foreign universities*
>
> *5: to enhance the quality of our research and education by submitting ourselves to international competition*
>
> *6: to enable our university to attract the best and brightest students and employees globally, and finally*
>
> *7: to ensure that as graduates from our University, our students are provided with a high quality research-based education AND, at the same time, a fluent command of the English language.*
>
> (LIFE, 2010)

From the language policy text, it is obvious that LIFE's plan at that time for using the English language in teaching and research was broad reaching, deliberate, and matched the

motivations for adopting EMI mentioned previously. LIFE realized that, as a faculty (or actually a small university at the time) in a small country, competing at an international level is vital for survival in an environment where everyone is vying for the same students and thus the same tuition monies.[9] However, implementing such a large scale EMI program is not without its challenges and concerns.

1.3.2. EMI Teaching at LIFE

My investigation is rooted in a qualitative teacher cognition design focused on EMI lecturers in STEM education. There is a convention at LIFE for student-centered teaching (SCT) in STEM classrooms. Student-centered teaching shifts the focus away from the teacher to the learners. A variety of methods may be used in student-centered learning, including diverse inductive teaching and learning activities, e.g. problem based learning, case-based learning, project based learning, etc. At LIFE, authentic case-based learning makes up a large extent of the teaching (LIFE, 2013). This teaching approach prepares students for a variety of situations which they may encounter in their careers. Students are seen to construct their own knowledge by working with real life situations. Here, the teacher adopts a strategy to help the students make sense of the content information, taking into consideration the students' prior knowledge. Through these pedagogic approaches, teachers encourage critical thinking.

Thus, in these EMI STEM courses, composed of heterogeneous students from around the world, the teacher's role is to moderate and lead the direction of the discussion to a higher level. This can only be achieved with a combination of skills on the part of the teacher. According to previous EMI research, adequate linguistic proficiency is, of course, a vital competence, but a good lecturer must also understand the students' learning needs and provide appropriate cues and activities that provide avenues for students to be able to

[9] Students who are not citizens of EU/EEA countries, or Switzerland, are required to pay tuition fees of approximately EUR 6500-8000 per semester for a full MSc degree or as a guest student. (SCIENCE Services, 2012)

understand and learn the content-material presented to them (Klaassen, 2001). Lecturers and students find that this interplay of language and pedagogy is vital for success. For example, Lehtonen & Lönnfors (2003) categorized their findings into these specific two areas. However, they note that these two broad categories are clearly interlinked (p. 8). Taking these requirements into account, with the desire to maintain quality standards in academic programs, LIFE included in its language policy specific measures for language training in English and Danish (both students and staff), as well as certification of lecturers' English for teaching. In the following section, I highlight those aspects of the language policy focused on quality assurance.

1.3.3. Quality Assurance and Language

Already in 2000, LIFE was concerned about potential adverse consequences of a broad, sweeping EMI policy for graduate studies at the faculty. Therefore, they placed great importance on establishing a quality assurance plan that included elements specific to language development and assessment. In this plan, LIFE listed the following five procedures:

> *1: All individual courses are evaluated via an internet-based standard questionnaire which the individual student answers. Five of the questions in the questionnaire relate to language*
>
> *2: The Faculty offers language courses to all students, in Danish as well as in English, partly financed by the students themselves*
>
> *3: Students have daily access to our Language Lab at the Student Services Office, where they may obtain general language tutoring, assistance with translation and terminology, etc.*
>
> *4: The Faculty has a specific plan for the enhancement of language skills for teachers within each Department*
>
> *5: The Faculty is considering language certification of the individual teacher as a requirement for teachers who teach in English. This, however, depends on the introduction of an independent and reliable language certification scheme at university level or at national level.*
>
> (LIFE, 2010)

Point 5, language certification of EMI teachers, eventually became policy. In 2010, in an effort to ensure that EMI at LIFE was at the same quality level as Danish medium instruction, the Faculty decided that all lecturers teaching EMI courses were to have their English language assessed. To achieve this goal, between 2010 and 2012, 250 lecturers from LIFE were required to take the Test of Oral English Proficiency for Academic Staff (TOEPAS) [10] offered by the Centre for Internationalisation and Parallel Language Use (CIP). In the next section, I describe some background information about the TOEPAS.

1.4. Test of Oral English Proficiency for Academic Staff (TOEPAS)

The TOEPAS is an oral proficiency test developed for internal use at the University of Copenhagen. The TOEPAS is administered to university teachers who lecture in English-medium graduate degree programs. The overall purpose of the test is to certify the lecturers' English language skills by assessing whether they have the necessary foreign language skills to cope with the communicative demands of teaching in EMI programs. More specifically, the test aims to assess whether the teachers have an adequate level of oral proficiency for lecturing and interaction with graduate students in English in a university setting (Kling & Stæhr, 2011). Originally, the assessment was intended for certification purposes for quality assurance at UCPH for select master's degree programs that were part of a larger initiative entitled the Copenhagen Masters of Excellence (COME). However, the leadership at LIFE also opted to assess the oral English skills for teaching of the teaching staff after the shift to large scale EMI programming at the Faculty in 2010.

During a TOEPAS testing session, the lecturer presents a mini-lecture in a simulated teaching setting held at CIP's testing center. The TOEPAS assessment criteria focus on the most significant communicative tasks the teachers were faced with in a lecture situation, namely:

[10] Lars Stenius Stæhr, PhD and I developed the TOEPAS at CIP in 2009 for the certification of the lecturers in the Copenhagen Master's of Excellence (COME) programs at KU. For more information about the test and the certification process see http://cip.ku.dk/english/certification/ and http://cip.ku.dk/forskning/cip_publikationer/CIP_TOPEPAS_Technical_Report.pdf/.

- Presenting highly complex content material to students, on the basis of PPT slides or other visual aids, but without a manuscript
- Explaining domain-specific terms and concepts
- Presenting a case or assignment, and describing administrative details
- Clarifying, paraphrasing or restating concepts and main points
- Asking questions to students
- Understanding student questions
- Responding to student questions
- Dealing with unclear questions or misunderstandings, and negotiating meaning

(Kling & Stæhr, 2012, p. 9)

The TOEPAS test procedure seeks to simulate two main teaching activities: 1) lecturing to students on the basis of visual aids, but without a manuscript; 2) interacting with students in the classroom about the content of the lecture or related issues. The two main activities are thus designed to elicit whether test takers can handle a range of communicative tasks considered important for university teaching. I ultimately drew on these communicative tasks as prompts in this study (see section 3.2.2.3).

1.5. Purpose of the Study

This study focuses directly on the cognitions about professional identity, professional authority, and professional expertise that practicing NNS university lecturers have in relation to the increasing demand for them to lecture and teach natural science courses through the medium of English.[11] As higher education becomes more and more globalized and an element of financial competition, all employees, including teaching staff, at universities

[11] There tends to be a globally established acceptance that English is the international language of the sciences (Ammon & McConnel, 2002; Ammon & Ulrich, 2001). This is discussed in more detail in chapter 2.

around the world find themselves facing increased pressure to perform professionally at very advanced levels in their foreign language. This study addresses an area which, until recently, has been overlooked by university management and leadership around the world. Although there have been initiatives related to the maintenance of the quality of instruction and language proficiency, such as the one at LIFE, there has been little focus on the professional needs of the lecturers themselves as regards, e.g., their professional self-esteem.

My research deals with the thoughts and reflections of lecturers about their teacher identity with respect to teaching graduate level courses in their foreign language. In addition, I investigated whether directed focus on oral language proficiency for teaching EMI through obligatory assessment with subsequent formative feedback affects lecturers' a) teaching and/or b) professional identity. In this study, I moved away from descriptions of the observed and perceived challenges of EMI, self-assessment of English proficiency, the compensatory strategies teachers use for EMI, as well as attitudes about EMI in general, which have been the main focus of much of the previous EMI research on lecturers (see section 2.1.1). Instead, I sought out the lecturers' reflections about teacher identity, and their subsequent thoughts about the effects of EMI on this identity. Much of the current research regarding the shift toward the globalized university and EMI in higher education in non-English countries has focused on the attitudes of the stakeholders, student preparedness and learning consequences of this shift on teaching and learning. This study focuses primarily on the lecturers' thoughts and concerns related to teaching in English. I sought to reveal underlying teacher cognitions in relation to teacher identity in the EMI context.

The results of this study will contribute to the present research knowledge in the field of EMI about academic staff, and help to shed light on continuing competence development needs of lecturers in this setting. My overall goal with this investigation was to learn how a select group of lecturers define their teacher identity. Furthermore, I sought to explore if a switch to an EMI context, entailing a change from teaching in one's first language (L1) to one's second language (L2), affected this perception of one's own teacher identity.

1.6. Dissertation Outline

This dissertation consists of six chapters. In this introductory chapter, I have described some of the general contextual issues related to EMI, and the teaching of EMI courses in the natural life science at the University of Copenhagen. In addition, I have described the Test of Oral English Proficiency for Academic Staff (TOEPAS) that was used to establish baseline proficiency of the participants in this study.

Chapter 2 presents a review of the main literature about English-medium instruction and teacher cognition studies that serves as the background for my work. The chapter first provides an outline and description of the current EMI research as it relates to lecturers and teaching in higher education. In connection, background literature related to disciplinary differences and EMI are introduced. Next, I address studies about identity and teacher professional identity from educational research and EMI research. Finally, I introduce background literature about teacher cognition studies and particular aspects that have relevance for this study.

In ***chapter 3,*** I discuss some of the principles of qualitative research, and present the main research methods utilized in this study. In this chapter, I provide an overview of the research design and the data collection techniques. I also summarize the data analysis process, and discuss validity and reliability, limitations, and ethical considerations in the study.

Chapter 4 presents results of the analysis of the data set drawn from the semi-structured interviews I conducted with the participants for this study. In this chapter, I outline four main sections. First, I present a model defining teacher identity provided by the participants. Following this, three themes derived from the discussions with the participants about their defined teacher identity and EMI are outlined and exemplified. Drawing on quotes from the participants, I expand on their thoughts about the role language plays in their self-conceptions of teacher identity. Next, I present the participants' concerns regarding the diversity of the background knowledge their students bring to class. Lastly, I focus on the role of experience and growth in developing and maintaining teacher identity.

Chapter 5 provides a discussion about the results drawn from the qualitative analysis. In this chapter, I discuss the model of teacher identity that emerged from the participants' reflections

in relation to the literature on teacher professional identity. In relation to this, I consider the effects of a shift from the lecturers' L1 to their L2 for EMI, and discuss their implications.

Chapter 6 sums up the main findings and contributions of this dissertation. I also address the implications of the study, and suggest areas for future research.

CHAPTER 2:
Literature Review

This qualitative study investigates the cognitions of teachers from the former Faculty of Life Sciences (LIFE) at the University of Copenhagen (UCPH). This project focuses on the reflections of full-time, Danish L1, EMI lecturers who have been certified on an internal proficiency test, TOEPAS (see section 1.4) as having the necessary English language skills to cope with the communicative demands of graduate level teaching. As mentioned in Chapter 1, a great deal of the current research about the shift toward the globalized university and EMI in higher education in non-English countries has focused on the attitudes of the stakeholders, student preparedness and consequences of this shift on teaching and learning. My investigation concentrates on lecturers in the natural sciences, their comments, and their concerns related to teacher identity. I seek to reveal underlying teacher cognitions about professional identity, professional expertise and professional authority, as well as personal identity and institutional identity, in relation to teaching outside one's mother tongue.

In this chapter, I explore and summarize recent research literature from a variety of disciplines. The areas reviewed comprise: 1) current trends in research on EMI in countries where English is not the national language; 2) a discussion about disciplinary differences and language use; 3) issues related to identity and teacher professional identity, and 4) studies in teacher cognition research, in particular those focused on EMI. In this review, I present an overview of the major strands of research relevant in the explored field of teacher cognition with regard to professional identity and teaching EMI. I conclude with a statement of the research issue and my contribution to these areas of research.

2.1. The EMI Research Agenda

Given the rise of English as a world language (Crystal, 2003), and the subsequent ongoing 'internationalization'[12] of higher education (Teichler, 2004; Wächter, 2008; Wächter & Maiworm, 2008), European universities have rapidly expanded their use of English as a lingua franca for tertiary education (Kirkpatrick, 2011; Mauranen, 2008; Seidlhofer, 2005). As described in the previous chapter, this has resulted in universities in non-Anglosphere countries branding themselves for the global market (Carroll-Boegh, 2005; Coleman, 2006). Universities in countries where English is not the national language now offer numerous full degree- and specialized EMI courses (Hughes, 2008). Indeed, small countries, such as Denmark, where English is recently being used more extensively, appear to be embracing EMI as an option (Ammon & McConnel, 2002). The causes and consequence of this shift toward globalization of higher education have led to extensive research on the use of a foreign language as the medium of instruction in such settings (Coleman, 2006). Much of the discussion about the use of English in higher education has taken place in the Netherlands and the Nordic countries, with the main focus on questions of domain loss, language for publication and parallel language use and language policy (Airey, 2011a).

As outlined in Chapter 1, the rapidly expanding research in English-medium instruction includes studies in three main areas. First of all, researchers are investigating language policy and programs, specifically institutional and national policy for higher education (Coleman, 2006; Ljosland, 2008; Saarinen, 2012; Saarinen & Nikula, 2013; Teichler, 2004; Wächter, 2008; Wächter & Maiworm, 2008). Second, studies focus on students, in particular on attitudes about EMI, students' language and literacy knowledge and skills, subject matter learning strategies, subject matter learning outcome, expectations and cultural understandings, student identity, and code-switching in the EMI classroom (Airey & Linder, 2006; Airey, 2009; Didriksen, 2009; Hellekjær, 2009, 2010; Kiil, 2011). The third area of research focuses on teachers in higher education, in particular on general

[12] In higher education, *internationalization* tends to be used synonymously with *globalization*. In this dissertation, internationalization refers to the integration of an international dimension to teaching and research. Globalization then refers to the adaptation of policy, processes and systems to meet the needs of the global market.

attitudes toward EMI, lecturers' language and literacy knowledge and skills, teaching procedures, compensatory strategies, and lecturers' reflections on practice, identity, and expertise (Airey, 2011a; Airey, 2013; Ball & Lindsay, 2013; Hellekjær, 2007; House & Lévy-Tödter, 2010; Jensen & Thøgersen, 2011; Jensen, et al., 2011; Jensen, et al., 2009; Klaassen, 2001; Preisler, 2008; Tange, 2010; van Splunder, 2010; Vinke, 1995; Westbrook & Henriksen, 2011; Wilkinson, 2005).

The general findings from these studies indicate a lack of explicit administrative focus on the challenges and needs of staff, (both academic and administrative) and students when implementing international programs (Carroll-Boegh, 2005). While English stands uncontested as the *lingua franca academica,* "it is rarely problematized at the outset, and questions of language mastery or the effects of teaching in English on content learning are rarely discussed" (Saarinen & Nikula, 2013, p. 132). In addition, a range of challenges and dilemmas for some lecturers and students have been identified (Airey, 2011a; Hellekjær, 2009, 2010; Vinke, et. al., 1998; Westbrook & Henriksen, 2011). However, both lecturers and students tend to be generally positive toward EMI (Airey, 2009; Bolton & Kuteeva, 2012; Jensen & Thøgersen, 2011; Jensen et al., 2009) and cope and manage better over time with experience (Jakobsen, 2010; Klaassen, 2001). For some lecturers, the challenges of foreign language use a the medium of instruction are described as 'a minor bump in the road' (Laursen, 2012).

2.1.1. The EMI Research Focus in Europe

When it comes to the NNS teaching in English in higher education, EMI in Europe places a new spin on a not-so-new situation. In the 1980s, 'the foreign TA problem' (Bailey et al., 1984), that is the integration of international teaching assistants into American universities, drew a great deal of attention. More recently, the focus switched to issues concerning L1 English speakers teaching essentially monolingual, homogeneous NNS student populations using EMI in Asia (Flowerdew & Miller, 1996; Morell, 2007). However, it is research from the Netherlands and the Nordic countries that has focused on training and feedback programs for local NNS of English who are teaching heterogeneous groups of students (NS and NNS of English) through EMI (Airey, 2011a, 2011b; Hellekjær, 2007; Klaassen, 2001; Lehtonen & Lönnfors, 2003; Vinke, 1995; Wilkinson, 2004). Much of the recent research regarding the shift toward EMI in higher education in non-Anglosphere populations has focused on 1) student preparedness to follow university teaching in English (Didriksen, 2009; Hellekjær, 2009, 2010), 2) consequences of this shift on teaching and learning

(Jensen et. al., 2011; Klaassen, 2001; Vinke et al., 1998), and 3) the attitudes of the stakeholders, e.g., students, teachers, administration, etc. (Airey, 2013; Bolton & Kuteeva, 2012; Jakobsen, 2010; Jensen & Thøgersen, 2011; Jensen et al., 2009; Kiliçkaya, 2006; Sercu, 2004; Tange, 2010; van Splunder, 2010; Vinke et al., 1998; Westbrook & Henriksen, 2011; Wilkinson, 2005). As this project is focused on teachers and their perceptions of the change that accompanies a shift to EMI, I do not go into detail here about issues related to student preparedness, student learning outcomes, or student attitudes to EMI. In the subsequent subsections, I report on consequences found in the research related to teaching EMI. In addition, studies about teachers' opinions and attitudes about EMI are presented.

2.1.1.1. Consequences Related to Teaching EMI

To begin with, as more and more university lecturers across Europe have to teach in a language which is not their mother tongue, some of the research findings seem to indicate that this change in the language of instruction may have implications for teaching. These may include challenges related to an increased heterogeneity of the students, the need for new pedagogical skills, and an increased focus on intercultural communicative competence (Klaassen, 2001; Tange, 2010; Vinke, 1995; Wilkinson, 2005). Therefore, because of these challenges, lecturers' proficiency in English is under scrutiny and universities are developing internal language assessment procedures for quality assurance (Ball & Lindsay, 2013; Kling & Hjulmand, 2008; Kling & Stæhr, 2011; Klaassen & Bos, 2010). However, although these issues are starting to be made more explicit in university language policies (e.g, LIFE's language policy, see section 1.3.1), the trickle down effect to the lecturers themselves may be minimal (Dimova, 2012). Lecturers who have undergone assessment tend to gloss over their results. In addition, few of the lecturers discuss their language proficiency level with colleagues or department heads, or seek out language training.

Although lecturers state that their foreign language skills are sufficient to teach their subjects in English (Airey, 2011a; Jakobsen, 2010; Jensen & Thøgersen, 2011; Klaassen, 2001; Vinke, 1995; Wilkinson, 2005), a recurring theme in the research is the perceived challenges that a foreign language lends to the act of teaching EMI. For example, some of the 'challenges' that have been reported are lecturers' own perceptions of lack of nuance (both lexical and grammatical) and precision, reduced ability to use humor and storytelling in teaching, reduced ability to draw on cultural examples, slower production, as well as increased workload, both in terms of preparation

and physical energy (Airey, 2011a; Hellekjær, 2007; Vinke, 1995). Regardless of the perceived and reported challenges, the lecturers do not perceive significant differences in their overall teaching performance. However, researchers have observed reduced redundancy, reduced speech rate, and limited expressiveness, clarity, and accuracy of expression of lecturers when they teach in English as a foreign language (Airey, 2011a; Thøgersen & Airey, 2011; Vinke et al., 1998). For example, Thøgersen and Airey found that the lecturer (Danish L1) in their case study spoke more slowly and used more a formal style when teaching in English compared to when he taught in Danish. Additional studies report lecturers' concerns that their teaching overall is negatively affected and that there is a greater need to focus on pedagogical skills in the multicultural classroom (Hellekjær, 2010; Jakobsen, 2010; Klaassen, 2001; Lehtonen & Lönnfors, 2003; Tange, 2010; Vinke, 1995; Wilkinson, 2005).

2.1.1.2. Opinions and Attitudes about EMI

As noted above, some researchers have focused directly on the opinions and attitudes of academic staff about EMI. In general, these studies have reported teachers' surface considerations and reported experience with reference to teaching, i.e., attitudes about the concept of language policy shift to teaching through EMI, concerns for language proficiency for teaching, and the need to reconsider how one teaches. However, to a limited extent, researchers have engaged EMI teachers in dialogue through interviews and case studies. These teacher cognition studies have given the lecturers an outlet to reflect on what it means for them on a more personal level to teach their subject in English (Airey, 2011a; Airey, 2013; Hellekjær, 2007; Tange, 2010; Westbrook & Henriksen, 2011), and their concerns about both national language identity (van Splunder, 2010) and professional identity (House & Lévy-Tödter, 2010). In the following subsection, I review a selection of the qualitative research studies related to lecturers' perceptions of the effects of EMI on their teaching.

2.1.1.3. Lecturers' Concerns on Campus and in the Classroom

Here, I present five qualitative studies, which were conducted over the five year period between 2007-2011, that investigate the attitudes and perceptions of lecturers about EMI. In this first study, Hellekjær (2007) conducted an exploratory case study of undergraduate level EMI in Norway using

semi-structured interviews with 10 lecturers. While this study focused mainly on the background and rationale for students to select EMI courses and their ultimate language learning in this context, the findings also report on the lecturers' thoughts about teaching in this context. Overall, Hellekjær reported that the informants claimed that teaching in English differed very little from teaching in Norwegian. Those lecturers with extended experience in English (from for example, extended stays abroad) had far fewer difficulties teaching in English. In addition, those teachers with less experience in English found teaching more taxing and time-consuming. Because of gaps in their general language skills, these lecturers found less formal teaching (i.e., groups and seminars) more difficult than, e.g., lecturing. In general, Hellekjær found a general lack of awareness of consequences, both positive and negative, of EMI for students and teachers.

In a similar study in Denmark, Tange (2010) conducted a series of semi-structured interviews at three Danish universities. Tange asked her 20 informants to discuss their attitudes about and experience with the internationalization of Danish higher education. Tange reported four core themes of concern for lecturers: language, culture, knowledge, and organization. Overall, the lecturers in this study considered the increase of EMI in Danish higher education to be positive. However, they reported greater job satisfaction when they are involved with university language policy and educational decision-making. Regarding classroom interaction, the study highlights lecturers' considerations in relation to two areas in particular: language and culture. Like Hellekjær, Tange reported that although teachers expressed concerns about their use of English as the language of instruction, for the most part they felt confident about their proficiency in controlled situations in domain specific areas. However, the lecturers reported that they encountered the most problems interacting more informally with students, and when they had to improvise and speak spontaneously. The lecturers reported that while they felt confident in relation to their domain specific language, they often found themselves stifled and muddled when they had to break away from their planned lectures and respond extemporaneously in relation to subject matter. More notable, however, were the lecturers' concerns with the cultural diversity present in the EMI classroom. The multicultural/multilingual classroom presented challenges for the teachers that they felt unprepared to address. These challenges manifested themselves in students who, in comparison to the Danish (local) students that they 'knew,' were more passive and unwilling to participate in classroom interactions. The lecturers noted that the students also had large differences in linguistic and academic abilities and that these differences often became problems because of different learning traditions and educational practices.

In a wider study, in 2009, the Centre for Internationalisation and Parallel Language Use (CIP) at the University of Copenhagen conducted an attitudinal survey among all academic/scientific staff at the university to investigate the strength of the public statements that were circulating about EMI attitudes at Danish universities (Jensen & Thøgersen, 2011; Jensen et al., 2009). In this survey, the university's academic staff was asked to react to a number of statements related to five themes focused on EMI and knowledge dissemination, teaching and learning, Danish domain loss, increasing international competitive capacities, and university decision making autonomy. The results of this broad scale quantitative survey that are relevant to this discussion mirrored those of Vinke (1995) and Klaassen (2001). The 1104 respondents at the University of Copenhagen generally considered their own English proficiency to be very high. Those with heavier EMI teaching responsibilities tended to assess their English as strong, as did the younger respondents. However, while between 20% and 50% of the respondents rated their English proficiency high, approximately 25% of the respondents noted challenges when teaching in English in relation to finding the appropriate vocabulary and in activating students. Interestingly, although they tend to rate their own language as sufficient for teaching, almost 75% of the respondents agree with the statement that far from all of their colleagues have the necessary skills for teaching in English. As one of the first, broad systematic surveys of the attitudes and opinions of academic staff across the university, the results from this study are quite powerful. With a response rate of 25.7% with relative representation from all eight faculties,[13] the results from this study provide a starting point for further research.

As an extension to the larger University of Copenhagen study, Jakobsen (2010) conducted a small scale qualitative study to investigate lecturers' attitudes and feelings towards lecturing in English through semi-structured interviews with 10 lecturers from the former Faculty of Life Sciences at the University of Copenhagen. Jakobson's results echoed the CIP survey results in regard to lecturers' general confidence and perceived English proficiency for teaching. Jakobsen's lecturers expressed the same challenges as Tange's in regard to the variety of cultural backgrounds the international

[13] When this survey was conducted in 2009, there were eight faculties at the University of Copenhagen. There are currently six faculties.

students bring to the Danish university classroom. Another recurring theme that Jakobsen reported is the lecturers' perception that they experienced a learning curve and that they found teaching EMI to be a dynamic process that improves with practice (see also Hellekjær, 2007; Klaassen, 2001; Vinke, 1995). And again, as noted in other surveys, lecturers express concern that due to the differences in student abilities (linguistic, academic, knowledge base), there are tendencies for the level of discipline specific instruction to drop when accommodating for the students' weaknesses in linguistic or disciplinary background. In her study, Jakobsen experimented with data collection methodologies, e.g., card sorting, to determine both the usefulness of the tools, but also to gain a deeper perspective than CIP's broad questionnaire.

The final study in this grouping is Airey's (2011) investigation into the reflections of inexperienced Swedish university lecturers about teaching EMI. As a follow-up to a training course for teachers who teach their subject in English, Airey collected comments from 18 course participants via an online discussion forum, and interviews of 12 with those participants about their reactions to their own performances lecturing in both Swedish (their L1) and English (their L2). Airey's findings replicate the studies described above with one notable addition. Compared to other studies, Airey's informants commented specifically on concerns about their weaknesses in English proficiency. It is suggested that this is due to the lecturers' inexperience as EMI teachers. As Airey notes himself, the use of data from the online discussion forum substitutes for reactions that could result when conducting a stimulated recall.

2.1.1.4. Summary of EMI Background Literature

The findings presented above from lecturers' opinions, attitudes, and reflections about teaching English-medium instruction are quite similar. Teachers tend to be positive to the shift to EMI and internationalization, with some mention of challenges and frustrations. The studies range in methodology from large scale, quantitative, questionnaire studies to qualitative case study research. In addition, the informants in these studies vary. The participants in these studies are drawn from a variety of disciplines. Although some background information about the informants is presented in these studies, none of them report bio-data about the number of years of teaching experience the informants' have in either their L1 or their L2. Lastly, the informants selected for these studies range in English proficiency level. It is difficult to assess the informants' responses without a clear

understanding of their English language proficiency levels. While Hellekjær does, for example, provide a description of the language skills of his informants, this description is subjective and is not based on a norm that can be replicated. The selection criteria for informants in these studies were not linked to age, experience, or English proficiency level. The variation thus makes it difficult to make broad generalizations. Regardless, these studies serve as a foundation for additional research that takes these aspects into account.

2.2. Disciplinary Differences with a Focus on Language and Instruction

Although disciplinary differences have been studied in the area of general education research for some years, a systematic analysis of the manner in which content is transmitted in the classroom has been overlooked (Neumann & Becher, 2002). In her survey of disciplinary differences and university teaching, Neumann (2001) notes the need for appreciation of how the nature of teaching varies across disciplines, especially beyond the obvious variations (e.g., tutorials in humanities versus lab experiments in science and technology). In general, researchers of disciplinary differences tend to accept Becher's (1989) groupings of the disciplines, which classifies the disciplines into hard pure (natural sciences, e.g., chemistry or physics), hard applied (science based professionals, e.g., engineering), soft pure (humanities and social sciences, e.g., history or anthropology), and soft applied (social professionals, e.g., education or management studies), each with their own characteristics for research and teaching. Researchers focused on teaching preferences and practices in relation to curriculum and assessment issues express their findings using these groupings. Table 2.1 shows a summary of some of the findings in this area as comprised by Neumann.

Table 2.1 Summary of Findings Regarding Disciplinary Groupings (Neumann, 2001)

Disciplinary grouping (Becher 1989, 1994)	Donald (1983)	Braxton (1995)	Hativa (1997)
Hard pure Natural sciences: e.g., chemistry, physics **Hard applied** Science based professionals: e.g., engineering	Highly structured courses Highly related concepts and principles	Student career preparation Emphasis on cognitive goals (learning facts, principles & concepts)	Emphasis on ability to apply methods and principles
Soft pure Humanities and social sciences e.g., history, anthropology **Soft applied** Social professions: e.g., education, management studies	Open course structures Loosely organized	Broad general knowledge Emphasis on student character development & effective thinking skills	Creativity of thinking Emphasis on oral and written expression

The descriptions in this table show that clear disciplinary differences and pedagogic preferences create very diverse learning environments in higher education. The curricular emphasis in the hard disciplines tends to be factual and related to specific principles and concepts. The soft disciplines focus on developing creative and analytical thinking skills as well as fluency of expression. Given the influence of discipline on academic beliefs and ultimately teaching performance, Neumann (2001) advocates greater systematic study of these areas. To expand on these differences, I describe two studies here that specifically focus on disciplinary differences in relation to foreign language learning and language use.

To begin with, applied linguistic research out of Asia has begun to consider disciplinary differences. The recent increase in bilingual programs and a shift in medium of instruction across disciplinary subjects has ignited interest in classroom interaction and language learning opportunities in secondary school EMI classrooms (Lo & Macaro, 2012). While the use of EMI for academic subjects in schools in Hong Kong is on the rise, Lo (2011) reports that there is little uniformity as to which subjects are selected to be taught in English. Subjects in the soft sciences have been favored for the change of medium, drawing on anecdotal beliefs that suggest that subjects in these disciplines are more verbal, and, therefore, offer more opportunities for discussion and second

language learning. Analysis of transcripts of 22 lessons across grades and subjects revealed that students spoke significantly more, and held their turns significantly longer in humanities classes compared to science classes. Lo suggests that these differences may be due to differences in language registers of domains, as well as the activities that take place in these classes. These results support the differences in domains described in Table 2.1, but do not address the specific nature of the language differences or challenges across the domains.

Looking specifically at the language registers of domains, studies conducted in applied linguistics focused on comparative usage of vocabulary across disciplines show evidence of suggested differences in language use at the macro level (Chung & Nation, 2003). Identification of technical vocabulary acquisition for language users with special purposes, for example advanced studies in specific disciplines, has advanced greatly. In their work, Chung and Nation (2003) analyzed methods for determining a reliable, valid, and practical approach to identifying technical terms. While the methods considered in their study are not pertinent to this report, their use of disciplinary comparison of texts shows specific differences in the type of language used in two specific disciplines, i.e., anatomy (hard applied) and applied linguistics (soft applied). In the course of their work, Chung and Nation analyzed one text from each discipline. Their analysis showed that technical vocabulary was nearly five times greater in the anatomy text than in the applied linguistics text (4270 identified technical terms in anatomy vs. 835 in applied linguistics). They also found that the types of words in the technical vocabulary differ considerably in the two disciplines. Of the technical terms in anatomy, 64% are terms particular to anatomy. In comparison, 88% of the technical terms in the applied linguistic text are words commonly used in other contexts as not only domain specific words, but also as general and academic vocabulary.

These two studies portray an indication of some of the variables that differentiate the disciplines. The variables include differences in vocabulary, i.e., domain specific, academic, and general vocabulary, as well as differences in verbosity and argumentation styles, both orally and in writing. Given the suggested variances of usage in the disciplinary groupings presented in Table 2.1, and the results presented above, I discuss more specific background literature about disciplinary differences and language use for teaching in the next two subsections.

2.2.1. Horizontal and Vertical Discourses – Language of the Disciplines

Considering the disciplines from a sociological standpoint, Bernstein (1999) distinguishes between differences in types of knowledge, or what he calls horizontal and vertical discourses. According to Bernstein, *horizontal discourse* is associated with common sense knowledge, and is "likely to be oral, local, context-dependent and specific, tacit" (p. 159). This is the type of knowledge that may be acquired at home or in the local community. In contrast to this is *vertical discourse*. This is knowledge that is a "coherent, explicit, and systematically principled structure" (p. 159). This type of knowledge tends to come from formal schooling and academic study. Bernstein then differentiates vertical discourse, i.e., disciplinary knowledge, into different kinds of knowledge structures: *hierarchical knowledge structures* and *horizontal knowledge structures*.

Bernstein describes a hierarchical knowledge structure as one that builds on and integrates knowledge at lower levels in the attempt "to create very general propositions and theories" (p. 162). There is an integration of existing knowledge in the process of constructing new knowledge, for example, as in the natural sciences. This orientation towards integration at lower levels in the building of generalized propositions is visually typically represented as a triangle. In comparison, a horizontal knowledge structure is "a series of specialised languages, each with its own specialised modes of interrogation and specialised criteria" (p. 162), for example, in the humanities. A horizontal knowledge structure is represented diagrammatically as a series of discrete strongly bounded and segmented languages: $L^1\ L^2\ L^3\ L^4\ L^5\ L^6\ L^7\ \ldots\ L^n$. Horizontal knowledge structures such as those of literary criticism and sociology thus grow as new specialized languages are added. "Hierarchical knowledge structures, in other words, test theories against data; horizontal knowledge structures use theory to interpret texts" (Martin, 2011, p. 42).

In the previous section, I presented data outlining differences of technical terminology of two specific disciplines, i.e., anatomy and applied linguistics (Chung & Nation, 2003). Linking these differences in terminology use with the differences in specialized language use, suggested by Bernstein's theory, leads to new considerations of language use in the EMI context, in particular when the parties involved are NNS of the language. In the next section, I present some recent findings from this new area of research.

2.2.2. Discipline and EMI Research

In descriptions of the major changes that have occurred in higher education and the challenges of globalization, little reference is made to medium of instruction (Becher & Trowler, 2001). However, the differences of academic disciplines have begun to play a peripheral but acknowledged role in EMI research. This new area of research is of particular interest to me, as I have restricted to data collection from the hard applied sciences. As noted above, some of the questionnaire surveys report differences in the attitudes and usage of English in international universities across academic disciplines. (Bolton & Kuteeva, 2012; Jensen & Thøgersen, 2011; Jensen et al., 2009; Pecorari, Shaw, Irvine, & Malmström, 2011). The survey results from Denmark and Sweden report differences in attitudes to the use of English as the medium of instruction in tertiary education related to academic discipline. In these studies, informants in the natural sciences (hard pure) tended to be the most positive, and informants from the humanities (soft pure) tended to be the most critical. This distinct division of opinion has led EMI researchers to consider pedagogic explanations as to why such a divergence exists among university lecturers and how this might affect teaching and learning in the EMI environment.

Drawing on principles from the general education research described above, Kuteeva & Airey (2012) and Airey (2013) identify a direct relationship between disciplinary knowledge structures and attitude to English language use (Airey, 2013, p. 67). Like the aforementioned Scandinavian studies, they found that, those in disciplines with hierarchical knowledge structures (e.g., natural sciences) were more positive toward the use of English compared to disciplines with horizontal knowledge structures. Building on Kuteeva & Airey's (2012) research, Airey (2013) investigated what, if any, considerations lecturers of physics (a hierarchical knowledge structure discipline) had regarding the disciplinary language-learning expectations of their students when teaching in English. Airey found that the lecturers do not view their role in the classroom to be that of a 'language teacher' or consider the language of instruction to be problematic. Airey suggests that in

relation to domain specific language needs, particularly when working in a second language, students are essentially being left to their own devices to acquire the domain discourse rules.[14]

From a more individual teaching perspective, Westbrook and Henriksen's (2011) findings in their case study[15] about a social scientist struggling with her self-image as an EMI lecturer may also be related to differences in academic domain. Although the aspect of discipline was not specifically addressed in this study, I believe the case study subject's reaction to the switch to EMI can be related to her discipline. In this study, the subject expressed great dissatisfaction with the fact that she had recently produced a textbook in Danish that she now had to abandon due to the change of medium of instruction. In writing her manuscript, she had worked diligently to build what can be described as 'horizontal knowledge structures' in Danish. That is structures that are segmented and that progress by adding segments to achieve cumulative knowledge-building. In her initial approach to EMI teaching, she believed that she had to leave her discourse behind and start over, so to say, now that the medium had changed from Danish to English. As noted in Table 2.1, social science also tends to focus on discussion and argumentation, including more emphasis on verbal and written expression. It may be that her teaching style is more explanatory, and perhaps even conversational in nature, compared to that of her colleagues in the hard pure and hard applied disciplines (see also Lo, 2011, above). As such, this lecturer needs to draw significantly on not only her domain specific language, but also her general and academic language.

Westbrook & Henriksen, (2013) have also begun pilot phases of an investigation of the language of teaching at the micro level. In their analysis of advanced NNS university lecturers' collocational competence, they look at the relationship between accuracy and usage of domain specific

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[14] To address the challenge of meeting student language needs more directly, Airey (2011b) calls for a systematic consideration of disciplinary communicative practices in teaching in his work with EMI content teachers. Airey notes that content teachers often do not realize that their students do not understand the domain specific discourse of the discipline in question, namely, language and/or concepts that students have not encountered prior to academic study. Airey developed what he calls the 'disciplinary literacy discussion matrix'. This matrix provides a tool for collaboration between content teachers and language teachers or education researchers for the development of disciplinary literacy, in particular when two or more languages are involved in the teaching context. Airey thus promotes this matrix as a first tool for initiating discussion about the linguistic and educational needs and goals of the students.

[15] This study is described in greater detail in Section 2.3.2.1, which addresses teacher identity and EMI research.

collocations, academic collocations, and general collocations in the lecturers' L2. By analyzing vocabulary usage across disciplines, Henriksen and Westbrook's initial data suggest that lecturers of math (hard pure science) assessed at the same TOEPAS level as their counterparts in, for example, large animal science or IT studies (hard applied science), use a higher density of domain specific collocations than lecturers in other fields.

2.2.3. Summary of Disciplinary Differences with a Focus on Language and Instruction

From the literature, we can see that there is a tendency for academics in the hard disciplines to be more positive to the switch to EMI. This positive attitude relates to language for lecturing, reading, publishing, and discussions. This is interesting when considered in light of both the macro and micro linguistic findings from investigations about language and language use in comparative disciplines. Given the weighted use of technical terminology in the hard disciplines compared to the soft, and the findings that showed that students speak more often and hold the floor longer in soft disciplines compared to the hard disciplines, one could have assumed that the findings about attitudes toward EMI would be opposite, with the soft disciplines being viewed more positively. To investigate more deeply the suggested differences of discipline and its role in the teachers' reflections, I limit the input for my analysis to one specific discipline, i.e., natural applied sciences. By analyzing the reflections of lecturers in the Faculty of Life Sciences, I can delve deeper into this area.

2.3. Identity & Professional Identity

This section presents current literature in the area of identity and professional identity. I present an overview of definitions and constructs of this domain that I draw on for the background purposes for my study. Although identity theory provides us with extensive definitions of personal identity, I am interested in how a change in language of instruction, or more precisely the use of the teachers' foreign language, as well as diversity of the student population, both linguistically and culturally, affects the lecturers' sense of themselves as teachers. There tends to be general agreement for a

need to recognize this interplay between what teachers bring as their individual characteristics from their personal lives and their teaching performance. For example, Lamote and Engels (2010) note the unlikelihood in a job such as teaching for teachers to be able to separate out who they are as people from how they act as professionals.

Some of the more recent research surveys provide us with a picture of perhaps a more complete representation of the individual. The range of characteristics of the multiple identities teachers bring with them to the classroom provides a scaffold on which to address new challenges. These challenges may include the need for teachers to teach in their L2, as is the case for EMI. As discussed in section 2.1 above, linguistic and pedagogical challenges arise from a move to EMI from traditional L1 teaching, and these are perceived differently by the teachers. Although there has been a focus on these challenges, there is a lack of research on teacher identity for experienced teachers in the EMI context.

2.3.1. Identity: An Overview

Before descending into the concept of professional identity, we need to consider how the literature has interpreted identity in general. With the multitude of definitions in the research literature today (Beauchamp & Thomas, 2009; Beijaard, Meijer, & Verloop, 2004), it is difficult to pin down a precise understanding of the term. Researchers in teacher education have often used the concepts of self and identity interchangeably (Day, Kington, Stobart, & Sammons, 2006). Both are complex concepts that draw on major research and theoretical areas of research across a variety of disciplines including anthropology, sociology, psychology, psychotherapy, linguistics, and cultural studies, with teacher identity (including professional identity) studies receiving attention mostly in literature principally focused on the socio-cultural aspects of identity (Fraser, 2011). In contrast to early modernist definitions that viewed identity as individual and intertwined with the relationship of the concept of self (Erikson, 1994; Mead, 1934), a new post-modern construction has emerged in the literature. Across a number of domains, we find that identity is not a fixed, psychologically pre-determined attribute, but is in constant flux, changing and shifting with our interaction with our environment and context (Akkerman & Meijer, 2011; Bourdieu, 1991; Pavlenko & Blackledge, 2004).

A fundamental element here is the importance of agency in identity formation which allows us to consider individuals as intentional beings. For example, van Lier (2010) notes that such agency includes initiative, intentionality, control, self-regulation, and self-efficacy. In differentiating self and identity, he suggest that the self entails a stable core where the aim is to preserve one's integrity, whereas identity leads to ways of matching, relating, and reconciling one's self with the world. Pavlenko & Blackledge (2004) define identities as "social, discursive, and narrative options offered by a particular society in a specific time and place to which individuals and groups of individuals appeal in an attempt to self-name, to self-characterize, and to claim social spaces and social prerogatives" (p. 19).

The literature on identity also presents it as tightly bound to social, cultural and political contexts. Bucholtz & Hall (2005) define identity as "the social positioning of self and other" (p. 586). They conceptualize identity as "a relational and sociocultural phenomenon that emerges and circulates in local discourse contexts of interaction rather than as a stable structure located primarily in the individual psyche or in fixed social categories" (p. 585-586). Similarly, Scollon et al. (2011), in their work on discourse communities and intercultural communication, argue that each of us maintains multiple identities. We are simultaneously members of many different discourse systems because virtually all professional communication is communication across some lines dividing us into different discourse groups or systems of discourse. Although this work focuses mainly on discourse in intercultural professional communication, building on Goffman's principles of interaction order, their description of the "nexus," where engagement of some type of social action is facilitated by a relatively consistent set of social processes, links to this socio-cultural perspective. Goffman's discussions of personal and social identities emphasize the uniqueness of the individual and the interplay one has with others. One's social identity is linked with a negotiation of meaning with others and is obtained through a realization of attainment of particular attributes and expectations by others (Burns, 2012). This links to the more overarching social identity theory, which illustrates how our identities are developed and maintained as well as how our identity or self-view is intricately linked to our membership of social groups.

Related to this concept of group membership is Wenger's (1998) concept of *communities of practice*. Communities of practice are defined as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis (Wenger, et al., 2002, p. 4). The communities of practice concept

helps to conceptualize the sense of belonging in a group. Wenger argues identity is formed while engaging in *communities of practice*, i.e., various groups one belongs to that are specifically defined by a shared domain of interest. Lave & Wenger (1991) concept of *legitimate peripheral participation*, a central concept in their social practice of learning, provides

> a way to speak about the relations between newcomers and old-timers, and about activities, identities, artifacts, and communities of knowledge and practice. It concerns the process by which newcomers become part of a community of practice. (p. 29)

By belonging to such communities, one must contend with a process of both identification and negotiation of meaning. In the spectrum of communities that we inhabit, we identify greatly with some communities, but not all. As members of these communities, "we define who are by what is familiar, what is foreign, by what we know and, what we can safely ignore" (Wenger, 2000, p. 239). I believe this idea of acceptance and rejection of aspects of particular communities applies to the population of my study as they enter into a new job description as EMI lecturers, expand beyond their boundaries, and engage in new communities.

In addition, this interaction, which also involves language and discourse, plays a role in identity construction, maintenance and negotiation (Gee, 1996). Gee's (2000) explanation of identity as a tool for analysis of research in education offers a concise definition of identity as being recognized as a certain 'kind of person' in a given context (p. 99). Gee outlines four perspectives from which to view identity, namely: 1) *the nature perspective* (N-Identities): a state developed by forces in nature (e.g. gender, race); 2) *the institution al perspective* (I-identities): a position that stems from authoritative powers within institutions (e.g. a professor, an inmate); 3) *the discursive perspective* (D-identities): an individual trait that develops through interaction with others (e.g. caring, abusive); and 4) *the affinity perspective* (A-identities): identity that develops based on experiences shared with a like-minded group (e.g., sports fans, *Star Trek 'Trekkies')*. Thus, people maintain multiple identities, but the 'kind of person' that is recognized at a given time depends on context. In education studies, this theory of identity has been used in several recent identity development studies such as studies on language teachers in Japan (Nagatomo, 2012), as a way to examine student discourse (e.g., Brown, Reveles, & Kelly, 2005), and studies on secondary school teachers. With a focus on authority and professional identity, Gee's institutional (I-identity) and affinity (A-identity) perspectives are useful to consider in relation to teacher identity for the purpose of this study. The identity teachers have in the workplace, in this case as academic lecturers at a university

and their affiliation within their field of study, or even affiliation with those who use English as an academic lingua franca, plays a role in how these teachers define themselves.

This interface of social identity and cultural identity has also played a key role with regard to language learning, language use and identity (Deters, 2011; Norton, 2006). Second language acquisition (SLA) research has recently sought to adopt an interdisciplinary and critical approach to identity research. This entails studying identity in language education from a sociocultural viewpoint (Norton, 2006). Norton notes that researchers have begun to recognize not only the differences, but also the intersections between social and cultural identity. She contends that researchers in SLA should draw on both institutional and community practices to understand the conditions under which language learners use the target language (Norton, 2006, p. 2). Drawing on Lave & Wenger's (1991) communities of practice (see above) and (Bourdieu, 1977) arguments regarding power, relationship and language, Norton illustrates how the language learners seek to become 'legitimate' community members. Norton's work with immigrant women and language learners (Norton, 1997, 2000) ties together psychological theories of motivation in language learning and the need for sociological investment by the language learner to become part of such a community. In a similar immigrant learner study of the use of English by professionals in Canada, Deters (2011) investigated factors that facilitate or constrain the successful acquisition of occupation-specific language and culture of internationally educated teachers. Deters found that acceptance of their status as newcomers and L2 speakers helped these teachers to develop strategies to deal with language issues in a professional context. While both of these studies focus on immigrant populations and concerns about language acquisition and motivation, the authors' discussion of power and social practice are applicable for considerations of EMI teacher professional identity. As these lecturers become part of the EMI community and gain experience with the practices in this environment, they begin to envisage themselves in a new light.

Thus far, I have presented aspects defining identity as multidimensional, fluid and flexible. Identity has been described as socially, culturally, and politically bound. It has been linked to discourse communities, communities of practice, and draws on aspects of power and social practice in its conception. In the next section, I move into a more specific type of identity, namely teacher professional identity, and present the current perspectives about it.

2.3.2. Defining Teacher Professional Identity

> Teacher professional identity then stands at the core of the teaching profession. It provides a framework for teachers to construct their own ideas of 'how to be', 'how to act' and 'how to understand' their work and their place in society. Importantly, teacher identity is not something that is fixed nor is it imposed; rather it is negotiated through experience and the sense that is made of that experience. (Sachs, 2005, p. 15)

At this point, it is vital to consider what is meant by teacher professional identity, the concept by which I frame this study. Over the course of the past few decades, teacher cognition research has shifted attention away from a focus on concerns regarding the basic transfer of information, a cause-effect model of teaching, to a more focused concern for the teachers themselves and the tacit aspects of their thoughts and beliefs, in not only the classroom and classroom behavior but also regarding their overall careers. This shift has led to an increasing interest in teachers' sense of their professional identity, its development and influence on practice in the field of teaching and teacher education (Akkerman & Meijer, 2011; Beijaard et al., 2004; Canrinus, 2011; Lamote & Engels, 2010). Although there has not been a great deal of focus on teaching professionals in the university setting, there is a growing awareness in the field of education that changes in policy, management and curricula at institutions of higher education can affect teachers' professional identity, and, ultimately, their professional performance, motivation and efficacy (Archer, 2008; Clegg, 2008; Henkel, 2000; Hanne Tange, 2012; Whitchurch & Gordon, 2010). For example, in the 1980s, Moore and Hofman (1988) considered teacher professional identity in higher education and intentions to leave the profession, based on university concerns about an academic brain drain from higher education to private industry. Working from a social identity paradigm, the authors characterized professional identity as the "the extent to which someone thinks of his or her professional role as being important, attractive, and in harmony with other roles" (Moore & Hofman, 1988, p. 70).

In the field of education, in general, a large majority of studies specifying professional identity focus on the development of professional identity and transformation of pre-service educators (students) in teacher education programs, particularly for primary and secondary school teachers (Beijaard et al., 2004; Beijaard, Verloop, & Vermunt, 2000; Canrinus, Helms-Lorenz, Beijaard, Buitink, & Hofman, 2011; Hamman et al., 2012). Training and reflection through teacher education and development, and the identity shift that occurs in teachers after completion of their professional training when they assume their places in the educational community, have also been in focus

(Beauchamp & Thomas, 2009; Beijaard et al., 2004; Farrell, 2011; Haamer et al, 2012; Trede et al., 2012). In their review of literature on professional identity from 1988-2000, Beijaard et al. (2004) found that the research focuses on three areas: 1) studies about teachers' professional identity formation, 2) studies about the identification of characteristics of teachers' professional identity, and 3) studies about professional identity as (re)presented by teachers' stories. Professional teacher identity formation is, in their view, "a process of practical knowledge building characterized by an ongoing integration of what is individually and collectively seen as relevant to teaching" (Beijaard et al., 2004, p. 123). Beijaard et al. (2000, 2004) point out that teachers' professional identity can be conceived as an ongoing process of interpretation and reinterpretation of teachers' practical experiences. In 2000, they reported on their own research project about teachers' professional identity. Inspired by the work of Bromme (1991), the following statement became the starting point of their research: "Teachers derive their professional identity from (mostly combinations of) the ways they see themselves as subject matter experts, didactical experts and pedagogical experts" (Beijaard et al., 2000, p. 751).

In their review, Beijaard et al. (Beijaard et al., 2004) also identified four characteristics essential for building a professional identity that they propose can function as a general framework for future research in this area. First of all, professional identity is an *ongoing, dynamic process* in which teachers interpret and reinterpret their experiences. Next, it *implies both person and context*. Third, professional identity *consists of several sub-identities* that are more or less in harmony with one another. Fourth, it is *based on self-direction* ('agency'), meaning that teachers themselves should play an active role in their professional development (p. 122). A key point from this survey of the literature was the noticeable lack of clarity between personal and professional identity. While studies on professional identity formation (e.g., Coldron & Smith, 1999; Volkmann & Anderson, 1998), and studies on stories that (re)present professional identity (e.g., Clandinin & Connelly, 1999) define the concept most explicitly, the lack of definition was most significant in studies pertaining to characteristics of teachers' professional identity. In a more recent study, Canrinus et al. (2011), define professional identity in general terms as how teachers see themselves based on their interpretation of their continuing interaction with their context. Drawing on profiles developed from an online survey completed by 1,214 secondary school teachers in the Netherlands, they argue that teachers' resulting job satisfaction, occupational commitment, self-efficacy, as well as levels of motivation are embedded in this interaction (Canrinus et al., 2011). The summary of characteristics of professional identity categorized by these studies provides a tool with which to consider the

comments of the participants in this study. However, the lack of a clear definition of teacher professional identity is problematic, and is a niche that this study attempts to address.

2.3.3. Teacher Professional Education: Reflective Practice

In general, higher education literature has focused on professional identity development research based on pre-service teachers and/or students across a variety of fields (Trede et al., 2012). Recently, we have begun to see a broader number of studies related to tertiary education dealing with issues of "academic identity" and lived experiences (Clegg, 2008), professional identity and the ideal teacher (Haamer et al., 2012), as well as broader issues of motivation and teachers' institutional loyalty (Hong, 2010). Investigations of professional identity construction at the university level have looked at the process as a form of socialization into a community of practice with no predetermined trajectory from novice to expert (Farrell, 2011; Haamer et al., 2012; Varghese et al, 2005). The processes of identity construction described in these studies demonstrate the complexities of developing a professional identity in a context where the linguistic resources and previous experience of participants can be interpreted differently, depending on the positions of members in the community. These studies also focus on the importance of participation in a community of practice as a form of constructing an identity. As Wenger (1998) states, "We define who we are by the ways we experience ourselves through participation as well as by the ways we and others reify ourselves" (p. 149). The different social roles that we assume in our lives also shape our sense of self, and how others see us in the context of our social activities. (Achugar, 2009). Researchers have thus begun to consider questions of professional identity for experienced academics in relation to culture, language, and institutional change (Farrell, 2011; House & Lévy-Tödter, 2010; Nagatomo, 2012; Olsen, 2012; Preisler, 2008; Westbrook & Henriksen, 2011).

For example, in investigating the development of professional identity of experienced Japanese English language teachers in Japan, Nagatomo (2012) drew on the theoretical frameworks of Wegner (1988) and Gee (2000). Through three interrelated qualitative studies, Nagamoto found that those who self-identified as teachers of English, regardless of previous academic background, struggled the least with their professional identity. While her participants found challenges in their own personal characterizations of appropriate student behavior or expectation of gender in Japanese culture, the women in her studies were able to define their professional identity by drawing on their

sense of agency to reconcile the gender differences in the university setting. This result of the teachers' active role in curriculum development supports the characteristics outlined as essential for professional identity in Beijaard et al. (2004). Nagamoto's findings support Wegner's (1998) theory that how one understands of their place in a community influences identification with that community. Instead of feeling marginalized, teachers chose to interpret gender isolation in the workplace as an opportunity for academic freedom.

In a similar type of study, Olsen conducted an individual case study of one non-Danish lecturer teaching her subject in Danish. Through the lens of communication theory of identity (Jung & Hecht, 2004), Olsen followed an experienced EMI lecturer who found herself teaching in Danish, her third language. Experiences and perceptions of discrimination and self-doubt with regard to acculturation and teaching affected this lecturer's confidence to the point that she doubted her professional identity. While this lecturer had always enjoyed teaching (in her L1 and English), and believed in her professional expertise and authority, negative experiences in the educational context, such as a lack of support from her colleagues and in-class challenges from students when teaching in Danish, made her fearful and negatively affected her professional identity. Although this lecturer had believed she was prepared to teach through the medium of Danish, at the time of the study she expressed insecurities, and preferred to return to an EMI setting where she felt more confident.

The studies described here stem from general education research, and provide a framework for analysis of reflection and teacher cognition research about professional identity. In the next section, I describe in greater detail three studies that consider professional identity in EMI. Preisler (2008) and House & Lévy-Tödter (2010) focus directly on self-perception and professional identity in the changing context of an international university setting. Westbrook & Henriksen (2011) also touch on the concepts of professional identity, professional expertise and professional authority, as well as institutional identity of university professors and the impact that EMI has on these features.

2.3.3.1. Identity as a Teacher & EMI

The relationship between identity and foreign language learning and use spans many academic theories (Beijaard, Meijer, & Verloop, 2004; Bucholtz, 2003; Deters, 2011; Norton, 1997, 2000). However, it is safe to say that a lecturer's professional identity in relation to teaching in an English-

medium classroom stretches beyond that of identity as a language user/learner. In a number of studies described above, the professional identity of teachers was related to images of self, while in others the emphasis was on teacher roles. Considerations of authenticity, authentication, expertise, and changing role(s) emerge as lecturers are expected to maintain educational standards regardless of a shift in medium of instruction. Typically, those selected to teach in EMI programs are not assigned courses based on their language competence, but based on their domain specific expertise and knowledge (House & Lévy-Tödter, 2010). Within the EMI research arena, three studies (House & Lévy-Tödter, 2010; Preisler, 2008; Westbrook & Henriksen, 2011) stand out in relation to teacher professional identity and the changing educational environment. I review these three studies below.

The first, Preisler (2008), is technically not a research study, but a CALPIU (Cultural and Linguistic Practices in the International University network at Roskilde University) subproject proposal. The project seeks to investigate the relationship between linguistic performance and academic authority among university teachers. This proposal addresses questions pertaining to teacher discourse in a Danish EMI setting. Preisler suggests an exploration into the use of English as an L2 in an international multicultural learning environment and how it affects the university teachers' professional identity as well as students' perceptions of this identity. Preisler focuses on questions related to the teachers' ability to maintain in their L2 the credibility[16] (authenticity) that they have established as university teachers through mastery of an academic style and other symbols of knowledge-based authority in their L1. He suggests that students come with their own personal concepts of what it means to be a university teacher. Deviations from this picture in the form of weaknesses they perceive in their teachers' performance, including problems with language proficiency, will diminish the teachers' authenticity in their eyes. From this perspective, Preisler suggests that teaching through a foreign language affects teachers' credibility. He argues that using an L2 can be restrictive and causes limitations in teaching performance due to a state of *reduced*

[16] Lavelle defines this type of authenticity as credibility. He explains that students' perceptions of credibility can be influenced by age, gender, appearance, and nationality, as well as language proficiency when English is the medium of instruction (Lavelle, 2008).

personality (Harder, 1980) on the part of the lecturer. In other words, the use of the L2 in this context limits the lecturer's "place in the ongoing interaction as he would like," causing him "… to accept a role which is less desirable than he could ordinarily achieve" (Harder, 1980, pp. 267-268). Preisler uses examples from presentations made by three 'types' of lecturers (Danish, Danish-American, European 'International') who differ in terms of communicative style and linguistic proficiency to exemplify both the degree and the manner in which teachers establish themselves in the international Danish university. By diagnosing problems and opportunities encountered in the EMI/ELF (English as a lingua franca) setting, Preisler argues that university teachers can be liberated, "restoring them to their former position in the pedagogical encounter" (p.118) and helps them to professionalize their teaching in the international university. In this proposal, Preisler states that his motivation stems from the desire to "liberate" university teachers who are forced to teach EMI. He says that this liberation will restore them to their former positions in the classroom, thus professionalizing them. While his suggested research methodologies, that is discourse analysis and ethnographic (semi-structured, qualitative) interviews with students and teachers, are appropriate for the proposed project, the study I describe below contradicts Preisler's hypothesis that teachers experience diminished credibility due to their linguistic performance.

In a similar ELF setting, House and Lévy-Tödterv (2011) conducted a study of the nature of self-perception of German L1 university teachers of engineering in an EMI/ELF environment. In an earlier study (House & Lévy-Tödter, 2009), the researchers observed instances of a more proficient, younger assistant interrupting and correcting his less proficient, elder superior. In this follow-up study, House and Lévy-Tödterv set about to investigate if and how English language competence affects the professional identity of engineering professors when their linguistic competence is noticeably lower than their assistants and the students they advise. Through analysis of four interactions between two German professors, an assistant, and three international students, as well as follow-up interviews with the professors, the authors found that that in spite of irregularities of traditional teacher-student behavior (e.g., professors were interrupted and corrected, professors self-corrected, …), the professors reported no differences in their perceived professional identity. They claim this was due to a sense of security that stemmed from their institutional identity, i.e., hierarchical superiority in the university system, as well as a desire to maintain positive relations with partner universities and industry. Although the professors acknowledged their linguistic weaknesses, the data showed no sign of a breakdown in communication. Instead, the data showed

effective use of linguistic and social compensatory strategies on the part of the professors when necessary.

In contrast, the third study in this section does suggest limitations in self-perceived credibility for teaching. Westbrook & Henriksen (2011) explored the reflections of a veteran, Danish, social science lecturer who voluntarily sought out English language training to strengthen her lecturing skills for EMI. This study sheds light on the affective concerns of teaching through a foreign language. The case study, originally intended to focus on language training, describes a gap between not only the informant's actual and self-perceived language skills, but also her self-perceived notion of identity and authenticity in the classroom as an expert and a professional. The authors note that although the lecturer was assessed as proficient for teaching in English by her language instructor (TOEPAS level 3, see section 1.4), her success as an EMI lecturer could only ultimately be characterized by her own subjective attitude and feelings. The authors highlight gaps between the lecturer's own perceptions of her skills and her teaching in English in relation to her actual language and pedagogical practices when teaching in English. They note that the informant struggles with her professional identity and sense of expertise when she finds herself stuck in repetitious undesirable chain of events in which she loses her train of thought. The informant identifies this chain as *double reflection*:

> reflecting on language -> feeling more self-conscious -> reflecting more -> becoming less fluent -> searching for words -> feeling nervous -> becoming more aware of mistakes -> trying to correct mistakes -> interrupting one's line of thinking -> going off topic (Westbrook & Henriksen, 2011 pp. 197-198).

Awareness of this act of double reflection diminishes the informant's confidence in her teaching abilities and thus her professional identification as a lecturer.

The results from this study appear to support Preisler's hypothesis that the subject's self-perceived linguistic weaknesses limit her personality, and her ability to authenticate herself in the classroom. However, House and Lévy-Tödterv found the opposite. Engineering professors (lecturers in the hard sciences) felt no compromise to their professional identity calling on aspects of their institutional identity as support. This element of teacher professional identity has not been greatly investigated, nor adequately defined in this context. Cultural differences regarding institutional identity, and its link to teacher professional identity, in addition to disciplinary differences, may help to explain why the Danish informant in Westbrook and Henriksen's case study expresses limits

to professional identity and self-doubt in relation to linguistic proficiency compared to her German counterparts.

2.3.4. Summary of Teacher Professional Identity

While the literature described above clearly shows that professional identity of teachers is a complex phenomenon, and requires periodic reexamination in regard to professional development, it lacks a clear definition of the concept. The studies place a great deal of emphasis on concerns for maintaining credibility and preserving authenticity. However, none of these studies provides a clear explanation of the elements that the teachers believe make up their professional identity. In other words, what constitutes this professional identity that teachers are trying to either develop or maintain?

Recent teacher professional identity studies, in particular those linked to higher education and EMI, draw on in-depth qualitative interviews to gain insight into the teachers' thoughts and beliefs about this element of their lives. In order to do the same, I have also chosen to use interviews to draw out tacit cognitions of experienced teachers. In the next section, I discuss this type of teacher cognition research in more depth and present some historical background about the field.

2.4. Teacher Cognition

In this section, I introduce an overview of teacher cognition research in general education studies. As an overarching research field, teacher cognition research seeks to investigate pre- or in-service teachers' self-reflections, beliefs and knowledge about teaching, students, content, and awareness of problem-solving strategies endemic to classroom teaching. This may include the study of teachers' thoughts and considerations during the planning stage, interactive thoughts while teaching, attitudes about students, education, learning, and reflections about their own performance and decisions (Borg, 2006; Calderhead, 1996; Kagan, 1990; Peterson & Clark, 1978). Teacher cognition studies seek to capture concepts "characterized as implicit, tacit, practical, systematic, dynamic, and contextually grounded, and can be related to the subject matter being taught, to learning, the learners, the curriculum, and to syllabuses and the goals of education" (Andon & Eckerth, 2009, p.

289). Basically, teacher cognition studies attempt to describe the 'mental lives' of teachers (Borg, 2006; Clark & Peterson, 1984), i.e., what they know, think, and believe, and how these relate to what they do (Borg & Burns, 2008; Woods & Çakır, 2011). Teachers are "active, thinking decision makers who make instructional choices by drawing on complex, practically-oriented, personalized, and context-sensitive networks of knowledge, thoughts, and beliefs" (Borg, 2003, p. 81). Thus, the research on teachers' thought processes comprises a range of topics, including teacher planning, teachers' interactive thought processes, decisions and teachers' theories and beliefs, as well as the teaching planning process. Teacher cognition research can be quite complex and abstract in that it strives to observe the "unobservable cognitive dimension of teaching" (Borg, 2003, p. 81). In an attempt to observe the unobservable, researchers rely on a broad variety of methodologies in teacher cognition studies. Borg provides a summary of data collection methods used in recent language teacher cognition studies (see Table 2.2).The instruments listed in the table are, of course, not limited to studies in language teacher cognition, but are also applicable to teacher cognition research in general.

Table 2.2 Data collection methods in language teacher cognition (Borg, 2006, p. 168)

Category	Goal	Methods
Self-Report Instruments	to measure teachers' theoretical orientations, beliefs or knowledge about an aspect of language teaching	• questionnaire • scenario rating • tests
Verbal Commentaries	to elicit verbal commentaries about teachers' beliefs, attitudes, practical theories and related mental constructs	• structured interviews • semi-structured interviews • scenario-based interviews • repertory grids • stimulated recall • think aloud protocols
Observation	to collect descriptions of real or simulated planning and teaching which can be compared to previously stated cognitions and/or provide a concrete context for the subsequent elicitation of cognitions	• unstructured observation • structured observation
Reflective Writing	to elicit through writing tasks teachers' perceptions of their experiences, beliefs and knowledge of the concepts they associate with particular aspects of (language) teaching	• journal writing • biographical accounts • retrospective accounts • concept maps

Given the nature of cognition studies, there is a range of data collection methods, both quantitative and qualitative, often used in combination to support the validity of the findings. Utilizing a broad range of tools helps to capture thoughts and reflections from different angles. Table 2.2 lists the range of methods available for researchers. The methods are not directly linked to quantitative or qualitative research, but rather to the focus and goals of investigation. Categories of investigation include elicitation of cognition from study participants through self-report instruments, using methods such as questionnaires or tests. Participants can also be drawn out orally, i.e., through verbal commentary, or in writing, i.e., through reflective writing. The breadth of methods provides opportunities for researchers to conduct both small and large scale studies, including case studies. Lastly, observation may be used to collect data that can be compared to stated cognitions and/or provide a concrete context for the subsequent elicitation of cognitions.

2.4.1. Teacher Cognition as a Field of Research

The goals of teacher cognition research has shifted focus greatly over the past 50 years. During the early days of teacher cognition research, studies sought to define effective teaching behavior, and pre-specified models for classroom teaching. Research focused primarily on what was termed the 'process-product approach'. Researchers investigated observable teaching behaviors and the resulting learning outcomes to determine causality (Borg, 2009). Since that time, however, we have begun to accept the need to understand teachers' cognitions, and their role with regard to what happens in the classroom. Extensive literature on teachers' beliefs in general education now provide us with general principles about teacher cognition and their relationship with what teachers do; namely that the teachers' thoughts and perceptions can influence and be influenced by teachers' experiences as both learners and student-teachers. Teacher cognitions, some of which may be deep-rooted and resistant to change, serve as filters through which teachers interpret, both consciously and unconsciously, their professional lives. As a field of study, teacher cognition research tries to better understand how teachers' mental constructs are related to how they teach (Borg, 2009; Woods, 1996).

This shift from the observable actions of teachers to include focus on their cognitive processes relating to thoughts and decisions in planning and in the classroom was a major departure from the previous research, and led the way to more psychology-oriented research (Clark & Yinger, 1977).

The shift in focus in the 1980s and 1990s from discovering the recipe for effective teaching, had researchers seeking to understand teacher thinking, planning, and decision-making with the hope of shedding light on how these can inform teacher education and the implementation of educational innovation (Borg, 2006; Shavelson & Stern, 1981). In reviewing the research of the late 70s and early 80s, Shavelson and Stern formulated models of teachers' judgments, planning decisions, and interactive decisions. Unlike previous linear models, Shavelson and Stern's circular conceptual representation focused on how teachers integrate a broad range of information in order to reach a judgment or decision on which their behavior is based and how this decision will, in many circumstances, change due to teacher behavior (p. 460). In addition to their innovative take on the two-way interaction between thinking and classroom practice, Shavelson and Stern offered several recommendations for further research on teacher thinking. For the first time in the literature, the role of *subject matter knowledge* or *content knowledge* was acknowledged, i.e., knowledge of the subject matter to be taught (Woods & Çakır, 2011), and the "authors argued that understanding how such knowledge is integrated into the process of planning and implementing teaching was an important issue deserving greater study" (Borg, 2006, p. 12). The inclusion of considerations for the role of subject matter knowledge in general education research led to a new wave of reform for the professionalization of teachers and argumentation for "a 'knowledge base for teaching' – a codified or codifiable aggregation of knowledge, skill, understanding, and technology, of ethics and disposition, of collective responsibility – as well as a means for representing and communicating it" (Shulman, 1987, p. 4).

In his quest to move beyond considerations of *subject matter knowledge* (content knowledge) and *pedagogical knowledge* (knowledge of teaching) as mutually exclusive domains, Shulman (1986) introduced the concept of *pedagogical content knowledge* (PCK). As a knowledge base for teaching, PCK supports classroom teachers, providing them with the tools they need to most efficiently communicate subject related material to students. In other words, PCK identifies the teaching approaches that are most appropriate, and how to best present the elements of specific content for optimal comprehension. This can include knowledge about how the students learn, about misconceptions of the topic that they may have developed, and the stages of learning they may go through before understanding and gaining mastery of the subject being taught. In describing the need for PCK, Shulman outlined what he believed to be a minimum knowledge base needed to help promote comprehension among students in the classroom: content knowledge; general pedagogical knowledge, curricular knowledge, pedagogical content knowledge; knowledge of

learners and their characters, knowledge of educational contexts; and knowledge of educational ends, purposes, and values, and their philosophical and historical grounds (Shulman, 1987, p. 8). Twenty years later, PCK has become a standard element of teacher education curricula and has been expanded into other domains to include new elements of required knowledge, e.g., technical pedagogical content knowledge (TPCK) (Mishra & Koehler, 2006). However, a limited number of researchers have expanded upon Shulman's minimum list of knowledge bases, which at the time was based on a local, homogenous student-teacher population.

More recently ,Woods & Çakır (2011) categorized the broad array of varients of *knowledge*[17] that have appeared in teacher cognition research. This clarification provides specific recurring themes by which the terms can be categorized. These categories include 1) knowledge as objective or subjective, a distinction resulting in the typical usage of the terms *knowledge* versus *beliefs,* and 2) knowledge as explicit and theoretical, or implicit and embedded in practice, a distinction resulting in the typical usage of the terms *knowledge* versus *ability.* This second category has become synomomous with what has become known as *personal practice knowledge* in teacher cognition research. Like Shulman, the authors argue for the dynamic interaction of these knowledge variants for the development and evolution of teacher knowledge.

In this section, I defined teacher cognition research, and presented the historical development of the research field. This shift from process to product has allowed researchers to go in and investigate not just what teachers do in the classroom, but why. From the breadth of teacher cognition research, I focussed my review on elements of teacher cognition related specifically to knowledge and arguments for the fusion of a broad array of knowledge variants. These elements of teacher knowledge are most pertinent to my study in providing a baseline understanding of how the lecturers ultimately define their overall teacher identity. In the next subsection, I touch briefly on how teacher cogntion studies have been conducted within the EMI context to collect information about what teachers in this area think, know and believe.

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[17] These terms include e.g., pedagogical knowledge, content knowledge, pedagogical content knowledge, practical knowledge, personal practical knowledge, knowledge in action, theories for practice, personal theories, theoretical beliefs, knowledge base for teaching, professional knowledge in action, etc. (Woods & Çakır, 2011, p. 383)

2.4.2. Teacher Cognition Research and EMI

Recent teacher cognition studies in Denmark in the EMI context have focused on teachers' opinions and attitudes (Jensen & Thøgersen, 2011; Jensen et al., 2009; Tange, 2010) towards the shift from a very nationally based curriculum and teaching format conducted in Danish, with a homogenous student and teacher population, to a more international, English-medium, heterogeneous classroom. And, although these opinion and attitudinal studies have provided some support for initial implementation of programs, they have not delved into the deeper, more tacit thoughts and beliefs of the teachers involved in these programs. In Denmark, limited research has been conducted on teacher thinking, planning, and decision making at the tertiary level. Given the considerable shift in the student population at the graduate level and job requirements for lecturers over the past decade, it is vital to consider the lecturers' thoughts and considerations when entering this 'new' classroom situation.

2.5. Statement of Research Issues

The research fields outlined in this literature review provide a framework for my study. Informed by literature on EMI, professional teacher identity and teacher cognition reviewed above, my research focuses on the cognitions of experienced non-native English speaking (NNS) university lecturers of natural science in relation to the increasing demand for them to lecture and teach through the medium of English. The overarching issue of this study considers the effect of switching the medium of instruction from the teachers' L1 to L2 on the teacher identity of the experienced academic lecturer. As an extension, I investigate whether directed focus on oral language proficiency for teaching graduate level courses at Danish universities through obligatory assessment with subsequent formative feedback affects the lecturers' teaching and/or teacher identity.

While there are significant bodies of literature concerning the challenges lecturers perceive when teaching EMI, as well as the development of teacher professional identity, very little research has been published concerning teacher identity of university professors engaged in EMI. Similar to the previous EMI research, the findings reported in this dissertation touch on the challenges lecturers perceive for teaching EMI graduate level courses at Danish universities, the compensatory strategies lecturers use to meet these challenges, and the influence these challenges and strategies

have on the lecturers' in class decision making. The findings of these subordinate points of interest are absorbed in the analysis of the data. This study addresses an area that, until recently, has been overlooked by university leadership, as well as teachers themselves. The results of this study contribute to the present research knowledge in the field of EMI about academic staff, and help to identify the continuing education needs of lecturers in this setting.

CHAPTER 3:
Methodology

The chapter outlines the methodological approach and research design of this exploratory study in teacher cognition about teacher identity. In order to investigate the reflections of lecturers from the former Faculty of Life Sciences (LIFE) at the University of Copenhagen (UCPH), I utilized qualitative research tools to focus directly on the cognitions about professional identity, professional authority, and professional expertise of experienced, non-native English speaking (NNS) university lecturers in relation to the increasing demand for them to teach their subject in English.

To begin with, I explain in section 3.1 the rationale for choosing the research design. Here, I include how the separate research elements of this study, i.e., the various data collection methods and analyses, contribute to addressing the overall focus of this study. In this section, I describe the individual qualitative method instruments in more detail, and discuss why they were chosen. Next, in section 3.2, I present the overall research design and provide information about the participants, the research setting, and an account of the data collection process. This account includes information about the development and implementation of the pilot study, and how the instruments were adjusted prior to the main data collection process. In section 3.3, I describe the data analysis. This includes subsections which outline how all the data were handled and analyzed. Limitations for this study are discussed in section 3.4. In the subsequent sections, I discuss the ethical issues considered in connection with this project and how they were addressed. Lastly, I touch upon concerns of validity and reliability. The chapter concludes with a brief summary of the material presented.

3.1 Methodological Approach

3.1.1 General principles

This study is descriptive in nature, as the goal is to investigate a particular phenomenon and the real-life context in which it occurs (Yin, 2008). As such, I chose to use a qualitative design with a collective case study approach (Stake, 1995; Yin, 2008). In contrast to a

quantitative study in which one collects numerical data that can then be statistically analyzed, qualitative data collection of primarily textual data and the subsequent interpretive analysis are better suited to the nature of this type of research because it seeks to investigate the context and real life experience of the language users (Crocker, 2009).

As noted in the literature review, there is a paucity of existing research in this area of teacher cognition in relation to L2 use and professional identity. With this in mind, using a case study approach is appropriate for this type of investigative research because it allows me to become familiar with basic facts and concerns, develop a rich picture of what is going on, and formulate questions for future research (Merriam, 1998; Neuman, 2006; Thomas, 2011). Case study design can help researchers to address 'how' and 'why' questions in descriptive studies such as this one, where the goal of the project is not to manipulate the behavior of any of the actors involved, and the context and the phenomenon being studied are intrinsically linked (Yin, 2008).

In general, case studies vary in nature and purpose. The different varieties of case studies have been described using different sets of terminology. For example, Stake (1995) distinguishes among three kinds of case study: intrinsic, instrumental, and collective or multiple case study.[18] In an intrinsic case study, it is the case itself which is of primary interest. For example, if I want to know about a particular teacher or group of students, it is in that person or group in which I have a fundamental interest. In comparison, in instrumental case studies, it is not necessarily the case itself that is the focus, but a particular issue or problem, and the case provides the catalyst for exploration. The case here is helpful in accomplishing something other than simply understanding one particular person, group, or situation. Lastly, Stake describes the collective or multiple case study that focuses again on one particular issue, problem or theory, but here the researcher chooses to study more than one case to allow for perhaps a better understanding of the issues in focus. For this project, I

[18] Yin (2008) differentiates case studies as explanatory, exploratory, or descriptive, with distinctions between single, holistic case studies, and multiple case studies.

have chosen the collective case study approach using the input from 10 individuals from within a bounded group, namely one specific university faculty.

I utilized multiple data collection instruments to measure the same phenomenon from different angles, the intention being that the weaknesses of one method would be compensated by the strengths of the others, thus strengthening the validity of the study (Nunan & Bailey, 2008). I drew on this plurality of methods, i.e., triangulation, to curtail the risk of bias. However, although triangulation can be more time consuming, and can lead the researcher to make inconsistent data sets artificially comparable in order to produce a stronger argument, it allows the researcher to address different complementary aspects and strengthen the completeness of a study (Arksey & Knight, 1999; Dörnyei, 2007; Mackey & Gass, 2005; Nunan & Bailey, 2008). To consider the situation from multiple perspectives in this project, I conducted field research and collected data through observation of teaching, stimulated recall, and semi-structured interviews with the participants, which included a review of their results and subsequent test feedback from an internal University of Copenhagen language proficiency test, the Test of Oral English Proficiency for Academic Staff (TOEPAS) (see section 1.6 for details about the test).

3.1.2 Qualitative Research Instruments

This qualitative study includes three main data collection methods, namely observation, stimulated recall, and semi-structured interviews (including two card sorting activities). In this section, I outline these data collection methods, explain their purpose in my project and describe the tools used in the process.

3.1.2.1 Observation: Procedure & Instruments

Observation in an educational setting provides in-depth information about phenomena such as the types of language use and variety of events that occur in classrooms. Unlike the two other collection methods used in this project, observation makes available direct information as opposed to self-report accounts (Dörnyei, 2007). For the purpose of this study, I used unstructured classroom observation to both collect descriptions of teaching and to get an

overall impression of the lecturers' language proficiency and teaching strategies in the EMI classroom. In addition, the observation also provides a concrete reference context for eliciting cognitions from the participants about the event.

I observed each participant teach their regularly scheduled EMI graduate level course for a minimum of one 45-minute lesson. (During the pilot stage, I conducted longer observations, but I determined that one lesson was adequate for data collection for the follow- up introspective self-reporting.) There were no specific criteria for the type of lecture I observed. I let the participants choose which lecture I would attend. As my goal was to observe them in a natural setting, I wanted the lecturers to be comfortable and feel prepared when I sat in their classes. I scheduled the observations at the participants' convenience. In most cases, the participants invited me by email to attend a particular lecture.

During the observation, I took running field notes, which included the timing of events, the placement of the participants and the activities that took place during the sample lesson, as well as notes on the lecturers' comments and responses to students. The observation was digitally recorded to allow for subsequent video prompted stimulated recall. To record the lecture, I used a Q3HD video recorder, a small digital recording devise that is the size of a cellular telephone. The lecturer was fitted with a wireless microphone that could easily clip onto the front of an article of clothing. The microphone did not amplify sound, but sent a feed directly to the digital video recorder. The miniature size of this recorder allowed me to discretely record the lectures from the back of the room without disturbing the students or causing distraction.

After each of the observations, the lectures were transcribed immediately (within 24 to 36 hours of observation). To assist me in managing the transcriptions, I used a freely downloadable software tool, VoiceWalker. I used a denaturalized transcription (Oliver, Serovich, & Mason, 2005) method to capture a verbatim depiction of speech. With this method, I strove to capture the substance of the lectures. However, during this phase of the project, language irregularities, e.g., pronunciation errors, word choice, irregular hesitations, etc., were also transcribed to provide me with not only an overview of the teaching event, but also meaningful input for the stimulated recall session. The transcriptions, along with the digital recordings, provided strong tools to help draw out more introspective information from the lecturers about the observation event in a subsequent stimulated recall session.

3.1.2.2 Stimulated Recall: Procedure & Instruments

With roots in cognitive psychology, introspection as a research procedure is the process of tapping into one's own thoughts and mental states (Dörnyei, 2007). Teacher cognition studies rely on introspective data collection methods (Borg, 2006; Calderhead, 1981; Stough, 2001; Woods, 1996) to go beyond the observable and draw out teachers' thoughts and reflections (for an overview of the methods employed in teacher cognition studies, see section 2.4). Verbal reporting as a type of introspection can include self-report, self-observation, and self-revelation (Mackey & Gass, 2005). In this study, I utilized stimulated recall and interviews "to elicit verbal commentaries about teachers' beliefs, attitudes, practical theories and related mental constructs" (Borg, 2006, p. 168) to the participants' teaching. My motivation to include stimulated recall as an elicitation tool stems from its previous use in teacher cognition studies focused on teacher beliefs and previous EMI studies. For example, in their work with student comprehension of EMI physics lectures, Airey (2009) and Airey & Linder (2006), utilized stimulated recall in trying to determine what students were actually doing in lectures.

With stimulated recall, cognitive processes can be investigated by inviting participants to recall, when prompted, their concurrent thinking during an event (Bloom, 1953; Calderhead, 1981; Gass & Mackey, 2000; Lyle, 2003). As an introspective method, the use of stimulated recall has been documented since the 1950s in education studies in teaching, nursing, and counseling (Bloom, 1953). Although there are obvious drawbacks to the methods, stimulated recall lends itself well to research in naturalistic settings where minimal intervention is beneficial to data collection for "teacher/educator behavior, particularly complex, interactive contexts characterized by novelty, uncertainty and non-deliberative behavior" (Lyle, 2003, p. 861). Unlike think-aloud protocols, which require participants to verbalize their thought processes while completing a task or solving some type of problem, stimulated recall is used after the event has occurred. Because the researcher uses data collected during the event to stimulate recollection, the participants are not distracted by introspecting and verbalizing while they are performing the competing task. While they are teaching, lecturers cannot teach and talk simultaneously; thus retrospective verbal account is required to examine interactive thinking. Researchers use the data collected during the event (in the form of, e.g., audio or video of the original event) to stimulate participants to produce good introspective recollections after the event (Borg, 2006; Nunan & Bailey, 2008).

There has been a great deal of methodological debate about stimulated recall and the validity of the data which it generates (Yinger, 1986). Arguments raised revolve around concerns about the reliability and accuracy of reporting given the pressure of the situation and the timing of the original event. Concerns about stimulated recall suggest that the commentary may include information generated from immediate long term memory, i.e., thoughts and reflections stimulated by the input (e.g. video) of the event (Borg, 2006).

To address these concerns, drawing on their own experiences and that of others, researchers (Dörnyei, 2007; Gass & Mackey, 2000; Mackey & Gass, 2005) recommend that to improve the quality of retrospective data, stimulated recall sessions should be conducted as closely as possible to the original event and provide participants with the richest stimulus available (i.e., video instead of audio or print). Bloom (1953), in his study using audio recordings to stimulate students to recall overt classroom events as part of a lecture, found that recall sessions conducted within a short period of time (around 48 hours) resulted in "as high as 95 per cent accurate recall of such overt memories" (p. 162). In addition, as researchers, we should strive not to lead the participants in any way, including using any type of prompts that would influence the response. Lastly, to ensure smooth administration, the piloting of stimulated recall sessions is strongly suggested (Dörnyei, 2007, p. 147–148). As I describe below, I tried to address all these points in my administration of the stimulated recall events.

I conducted a follow-up stimulated recall session with each lecturer within 2 days of the observation. The timing of this activity was essential for the reliability of the stimulated recall commentary (Gass & Mackey, 2000). When I met with the participants, I utilized standardized stimulated recall procedures (Calderhead, 1981; Gass & Mackey, 2000) based on video input. These procedures included using a standardized script to give directions about the session, opening with small talk using background questions about the participants' reflections on their teaching, and utilizing open-ended, non-leading prompts to stimulate reflection, and draw out responses from the participants.

The guidelines for the procedure were offered in both Danish and English, and the participants could choose to speak in either Danish (their L1/my L2) or English (their L2/my L1). I included this option to eliminate any possible linguistic or cultural factors that might cause a breakdown in communication (Dörnyei, 2007; Gass & Mackey, 2000; Mackey & Gass, 2005) and to allow the participants to express themselves without interference from linguistic uncertainty. Likewise, the participants could choose to speak either language during

all of our interactions. My goal was to provide them with the option to choose the language that they found most comfortable. If they began speaking in English and the conversation was flowing, I did not want to interrupt their thought processes to change medium. That said, there were times when one of us, either the participant or I, would code-switch between the two languages. The participants in this study were all familiar with this type of bilingual interaction. This acceptance of communication that allows for code-switching and /or the simultaneous use of two different languages is part of a larger language policy at the University of Copenhagen, namely, a policy of *parallel language use*. In situations of parallel language use, two languages are considered equal in a particular domain, and the choice of language depends on what is deemed most appropriate and efficient for a specific event.[19]

The entire stimulated recall event was simultaneously digitally audio recorded using a TASCAM DR-07 portable digital recorder that was placed on the table in front of the participant. The lecturers watched the digital recording of the classroom teaching observation on a Toshiba laptop computer. Both the participant and I could control the video via easily accessible buttons on the computer keyboard. During the stimulated recall sessions, the lecturers viewed the recording of the lesson they had taught; they stopped the video at intervals they felt relevant to explain what they were thinking at the time of the event and described as accurately as possible what they had been thinking while they were teaching. Using the transcription of the lecture as a prompt, I also stopped the video and asked the lecturers to try to recall what they were thinking at moments in their teaching that I found relevant. Each recall session lasted approximately 1 hour. The stimulated recall sessions were subsequently transcribed, and when necessary, translated into English. I again used a denaturalized transcription, but this time I did not include linguistic irregularities, as this was not an intended focus of analysis.

As suggested above, so as not to influence the stimulated recall, I did not discuss with the participants the direct purpose of the project, beyond what had been described in the letter of invitation and outline on the consent form they signed (see section 3.6 for further discussion).

[19] For more information about parallel language use, see: http://cip.ku.dk/english/about_parallel_language_use/.

The purpose of the stimulated recall was to produce reflections and statements about a particular event; the interview provided the first opportunity to ask the participants direct questions concerning their thoughts and cognitions. Thus, following each of the stimulated recall sessions, I conducted a more formalized, focused interview as an elicitation procedure with the participants.

3.1.2.3 Interview: Procedure & Instruments

Interviewing is a common, qualitative research data collection method that can range along a continuum from structured to unstructured. Along the continuum are semi-structured interviews. Although formalized with a specific framework, semi-structured interviews are flexible. Based on a set series of questions and topics, the open-ended questions allow the informant to elaborate on the issues since the questions do not force choices (as can be the case in structured, surveylike interviews), and facilitates interpretation of responses (Arksey & Knight, 1999; Borg, 2006; Dörnyei, 2007). To promote reliability and ensure that the interview questions cover the domain and nothing is left out accidentally in these types of interviews, an interview guide must be developed and piloted (Dörnyei, 2007, p. 136). Using the guide ensures that the same questions are asked of the participants, but allows the researcher to digress and probe further, depending on the development of the interview with each individual participant (Mackey & Gass, 2005, p. 173).

In this project, I used semi-structured interviews. Given the nature of these interviews, the semi-structured format provided me with a compromise between the two extremes, e.g., structured and unstructured interviews (Dörnyei, 2007, p. 136) for data collection. Since the interview was at least the third meeting I had with each participant, the one-on-one interview setting reinforced our relationship and the rapport built over the prior to the data collection events. In addition, this format gave the participants the opportunity to be flexible in their responses and allowed the interview to proceed much like a conversation.

After the stimulated recall sessions, I transcribed the audio recordings of the participants' reflections and considered the comments of the participants in relation to preparation for the semi-structured interview. The semi-structured interviews then took place with the lecturers within a week or two following the stimulated recall. Like the stimulated recall sessions, the

interviews also took place in both Danish and English. Since note taking can be both disruptive and inefficient, I again digitally audio recorded the interviews to ensure accuracy of data collection. As I set up my recording equipment, I made small talk with the participant to establish a relaxed environment. Each interview lasted between 45 and 90 minutes, depending on the amount of detail the participants chose to share.

The interview questions used in the study were linked directly to the project's focus, namely teachers' thoughts and reflections about their identity with respect to teaching graduate level courses in their foreign language. I linked the questions as clearly as possible to the overall focus to reinforce the transparency of the purpose of the project to the participants. This transparency is vital so as not to result in a 'subject expectation effect' (Supino & Borer, 2012), or in other words, influence participants from giving responses they think are expected.

To collect additional verbal commentary, I also included a form of two card sorting activities as an elicitation device in the semi-structured interview. Card sorting is a low-tech, inexpensive method, which serves as input for design that is generally used by information technology architects for making categories and discovering preferences. The process involves sorting a group of cards, each marked with some type of content or information, into groups that make sense to the users or participants (Spencer & Warfel, 2004). Card sorting, in general, deals well with "nominal values, i.e., data which do not form any sort of semantic scale, and which are divided into non-scalar categories" (Rugg & McGeorge, 1997, p. 81). Although card sorting is a quick, inexpensive, established, and efficient method of getting people to categorize and describe their interpretation of concepts and events, there are some disadvantages to this process. First of all, researchers must conduct a thorough needs analysis prior to creating the 'content' for the activity. In addition, the analysis of card sorting activities can be time consuming, especially if the results vary greatly between participants. Lastly, even though card sorting directly involves participants, and asks them for their input, it may only capture 'surface' characteristics if the participants do not consider what the content is about (Spencer & Warfel, 2004).

In the final phase of the interview, I asked questions based on the participants' TOEPAS proficiency test results and formative feedback reports. The questions for this part of the semi-structured interview again relate directly back to the overarching issue of professional identity addressed in the study, as outlined in Chapter 1, with a focus on English linguistic

proficiency and the reflective practitioner. Below, I describe in detail the interview procedure and the tools I used in the process.

Interview Procedure

As noted above, I utilized an interview schedule (see Appendix B) that was scripted with specific questions that had been honed during the pilot stage. The questions related to the project's overarching focus, with a specific focus on *professional identity, professional authority,* and *professional expertise*. More specifically, these three terms were printed on individual cards and placed as prompts on the table in plain view throughout the entire interview to remind the participants of the focus of the questions. The interview consisted of three parts:

- Questions related to cognitions about teaching and the profession
- Card sorting activities
    - #1 - Categorizing descriptive prompts (individual words)
    - #2 - Reflections on teaching strategies and compensatory strategies
- Questions related to English language proficiency and teaching in EMI classes.

In the first phase of the interview, I placed the three cards with the prompts *professional identity, professional authority* and *professional expertise* on the table in front of each of the participants and asked them to define these terms for me. I also asked them to consider whether they thought there were differences in their perceptions of themselves in regard to these concepts when teaching in English as compared to teaching in Danish. Since teaching experience is mentioned in several studies in the EMI context (Airey, 2011a; Jakobsen, 2010; Klaassen, 2001; Lehtonen & Lönnfors, 2003; Preisler, 2011; Tange, 2010; Vinke, 1995; Westbrook & Henriksen, 2011; Wilkinson, 2005), I asked the participants bio-data questions about their career, including questions related to the number of years of teaching experience in both Danish and English, as well as notable changes that had taken place over the course of their experiences as they made shifts from one language to the other in the classroom.

As mentioned above, I included two card sorting activities in the second part of the interview. In card sorting activity 1, I asked the participants to consider a series of descriptive prompts, and to respond in relation to two aspects. Table 3.1 lists the 16 prompts used in the main study (for Danish, see appendix C).

Table 3.1
Card Sorting Activity 1: Descriptive Prompts: (in alphabetical order)

• Approachable
• Authoritative
• Awkward
• Confident
• Embarrassed
• Effervescent
• Fumbling
• Humorous
• Improvisational
• Inhibited
• Knowledgeable
• Nervous
• Secure
• Spontaneous
• Stupid
• Unsure

First, the participants were to tell me whether the word had positive or negative connotations, in particular in relation to professional identity, professional authority, and professional expertise. Next, I asked them to state whether these prompts applied to them when they teach in English. The participants then placed the cards into piles representing three categories: applies, sometimes applies, and does not apply. After the participants had divided the prompt cards into the three piles, we discussed each word, with particular focus on those words that applied to them, and which they considered had negative connotations. Following this exchange, I also asked the participants to consider if their responses would be the same when they teach in Danish; if not, then how and why are they different. After each administration of card sorting activity 1, I took digital photos of the placement of cards on the table for accurate data collection.

In card sorting activity 2, I asked the lecturers to consider terms and phrases related to pedagogy and teaching strategies (for Danish, see Appendix D). These prompts, listed below in table 3.2 were drawn from actions and strategies observed in the first phase of the study, from CIP's target language use list for teaching in EMI settings (Kling & Stæhr, 2011), as well as from previous studies (Klaassen, 2001; Tange, 2010; Westbrook & Henriksen, 2011). I then asked them to review the cards, and to pull out the three or four strategies they thought were most affected by the change of language of instruction from Danish to English. The

participants then described if and how changes to the strategies they selected affected their definition of their own professional identity, professional authority, and professional expertise when teaching in English.

Table 3.2
Card Sorting Activity 2: Prompts Related to Pedagogy and Teaching Strategies (in alphabetical order)

• Accommodate to the students' language proficiency
• Emphasize important points
• Explain new terminology
• Gain contact with the students
• Give an overview of a lecture and teaching goal
• Give concrete examples
• Give Danish cultural references
• Give detailed instructions
• Guide the students' self-study
• Relate lecture to students' background
• Stimulate students to ask questions
• Summarize sections of a lecture
• Use appropriate tempo

The third and final part of the interview focused on questions about linguistic proficiency for teaching in English. Up until this point in the interview, I had not asked the participants specific questions about their perceived strengths and weaknesses in oral English. To personalize this section, and to delve deeper into the lecturers' cognitions regarding their own perceived and assessed language proficiency for teaching graduate level courses, I reviewed the individualized TOEPAS formative feedback report with each lecturer. In doing this, I allowed the lecturers to express their opinion about the test itself and their experience with the test, as well as their perception of the assessment and feedback that they received. The interviews typically concluded with open-ended comments from the lecturers about their experience teaching multinational, multilingual groups of students, and their expectations for the future.

3.2 Research Design

In this section, I present the overall research design, and provide information about the participants and the research setting. I also give a detailed account of the data collection

process. This account includes information about the development and implementation of the pilot study, and how the instruments were adjusted prior to the main data collection process.

3.2.1 Data Collection

In order to become more comfortable with the data collection instruments, I conducted a pre-pilot session prior to data collection. Data collection then took place in two phases: the pilot study and the main study. The pilot study was conducted in the spring of 2011, and included three participants. The main study was conducted in fall 2011/winter 2012, and included seven additional participants, as noted above. The general outline of the data collection for this study is illustrated in Table 3.3.

Table 3.3 Data Collection: An Overview

Pre-Pilot Session Spring 2011	**Pilot Study Spring 2011**	**Main Study Fall 2011/Winter 2012**
Classroom observation Stimulated Recall (test instrument & procedure)	Participants: 1 woman / 2 men Classroom observation Stimulated recall Semi-structured interview • Card sorting activity 1 – 29 prompts • Card sorting activity 2 – 19 prompts (discuss all prompts**)**	Participants: 2 women / 5 men Classroom observation Stimulated recall Semi-structured interview • Include 3 prompts, professional expertise, professional authority, & professional identity, as stimuli • Card sorting activity 1 – 16 prompts • Card sorting activity 2 – 14 prompts (participants discuss 3-4 self-selected prompts) • Include questions about language proficiency & TOEPAS

The pilot phase of this project allowed me to test my criteria for participant selection, and determine the value of the various tools I intended to use for the main study data collection. This phase also gave me a chance to experiment with the technical equipment, that is, the

portable digital video recorder, the wireless microphone, and the digital audio recorder. In this section, I describe how I utilized the research tools in the early stages of my research.

As seen in Table 3.4, I conducted the pilot study phase of research with three pilot participants. These three lecturers came from three different departments and programs at LIFE. The female pilot participant was a senior researcher, while the two men were both associate professors. For the pilot study, I utilized all three tools data collection described above, i.e. observation, stimulated recall, and semi-structured interviews (including card sorting activities). I conducted all three data collection activities with each participant before moving on to the next pilot participant. In this phase of my project, I was able to evaluate the benefit of these tools, as well as fine tune their qualities. For example, during the pilot study, I developed and refined my observation techniques for the purpose of my study, as well as piloted the stimulated recall session. Prior to this project, I had no experience with stimulated recall. Therefore, before conducting my first pilot-study stimulated recall session, I pre-piloted my stimulated recall structured schedule with a volunteer associate professor from the Faculty of Humanities. I used this session to become more comfortable with the directions for the stimulated recall, as well as the necessary technical equipment. Then, with each pilot-study stimulated recall session, I gained confidence in conducting this type of data collection. This experience was invaluable and provided me with strategies for eliciting responses from the participants for the main study.

But more importantly, the pilot study provided me with substantial feedback for the interview phase. From my experience during the pilot phase, I was able to reconstruct the semi-structured interview schedule and the card sorting activities. For example, during the pilot interviews, I had not reviewed the TOEPAS results with the participants. Reviewing the data from the pilot interviews, it became clear that this would be necessary in order to address the focus of my research. Thus, questions about proficiency and the TOEPAS were included in the main study.

With regard to the card sorting activities, the original list of prompts for activity 1 that I used during the pilot stage of this study consisted of 29 prompts. These prompts were drawn from Jakobsen (2010) and Westbrook & Henriksen (2011). There were also some prompts which were generated in the stimulated recall sessions of the three pilot participants. Early on in the pilot session, it became obvious that this number of prompts was far too many and unwieldy. As some of the prompts did not result in meaningful reflection in the pilot interviews, the

number of prompts was reduced to 16, eight potentially positive and eight potentially negative (see Table 3.1 above). Redundant terms and those that did not generate much discussion in the pilot session were eliminated from the study. In some cases the words were altered. In the pilot phase of card sorting activity 2, I asked the lecturers to consider 19 prompts printed on cards individually and comment on any concerns they had in relation to these terms and EMI. As noted above, the number of prompts was reduced to 14 for the main study. Also, instead of asking the participants to consider all of the cards, as was the case in the pilot study, the participants in the main study received all 14 prompts (see Table 3.2, above) in a stack and were requested to speak to only those they found applicable.

As for participant selection criteria, with each additional pilot participant, I was able to review, analyze, and consider their traits and the research instruments, and assess the value of these for data collection. This evaluation process provided me with the opportunity to identify relevant selection criteria and reorganize my semi-structured interview schedule. Corbin and Strauss (2008) recommend this type of data gathering based on concepts for participant selection, when possible. I found this type of theoretical sampling for selecting participants on the basis of whether or not they contribute to the development of the project to be quite helpful in the pilot stage. Unfortunately, due to time constraints and the availability of the participants, I was not able to truly use theoretical sampling as outlined by Corbin and Strauss throughout the course of the main study.

Thus, the initial analysis of the pilot study allowed me to confirm the criteria for participant selection, to develop the semi-structured interview schedule, and to select the prompts I ultimately used in the main study. Below, I outline the participant selection criteria, the participant recruitment procedure, and the data collection process for the main study. Aspects of these processes that were altered after the pilot study are noted throughout the text. As the input from the pilot participants was rich and insightful, I have, however, chosen to include their comments in the analysis when appropriate.

3.2.2 Participant Selection Criteria

In this section, I outline the participant selection criteria. Since the goal of this project was to gain insight into the reflections of a particular group of individuals, the participants of this

project were selected using a purposive sampling technique based on several criteria to maximize understanding of the underlying phenomenon. In general, depending on the research topic and setting, researchers may choose from a variety of purposive sampling strategies. Patton (2002) delineates 16 varieties of purposive sampling that all, in comparison to Corbin and Strauss' (2007) ongoing, evolving theoretical sampling (Dörnyei, 2007, p. 126), select participants based on predetermined criteria relevant to the purpose of a study. In my project, I opted to follow three interrelated sampling strategies (Dörnyei, 2007, p. 127–128), namely (1) homogeneous sampling, to understand and describe a particular group in depth, (2) typical sampling, to describe a normal or average case for a particular phenomenon, and (3) criterion sampling, to set specific criteria and pick all cases that meet that criteria.

For participation in the main study, participants had to meet the following criteria:

- Tenured academic staff
- Employed at the Faculty of Life Sciences (LIFE)
- Danish L1 speakers
- TOEPAS result – minimum 3

After meeting with the pilot participants, I decided that the participants were to be tenured academic staff (associate professor or professor) employed at the former Faculty of Life Sciences (LIFE). This first criterion, i.e., tenured staff, was applied to be sure that all the participants had extensive teaching experience and were used to working with masters' and PhD students with highly advanced concepts and theories, which would require high linguistic proficiency in the classroom. In addition, they all needed to be involved in teaching graduate level courses in English, which would require the ability to clearly communicate with students coming from a variety of linguistic, cultural, and educational backgrounds. The second criterion, i.e., employment at the former Faculty of Life Sciences was chosen for two reasons. Firstly, the staff at LIFE has been proactive in relation to EMI and international education (see section 1.3.1). Secondly, the lecturers, as experts in fields of natural science, as opposed to the humanities, use discourse and language in their teaching in a similar manner (Becher & Trowler, 1989; Bernstein, 1999) (see sections 2.2 & 2.2.1), but have probably not spent their professional careers focusing on the English language and communication, as many humanists and social scientists have.

As the third criterion, all the participants were required to have Danish as their first language. This criterion was selected to eliminate any potential influence from linguistic and cultural differences among participants. All participants have studied in the same national educational context and share an understanding of the academic culture in the Danish university system and higher education. They also have a shared understanding of English as a foreign language based on having Danish as the common first language. This criterion was also applied to allow all participants to receive visual stimuli (card sorting) in Danish and to conduct their stimulated recall and interview questions in their first language, if they chose to do so.

Linguistic proficiency was the fourth criterion. To establish a baseline proficiency level, the participants were required to have been certified as (low) advanced level speakers of English on the Test of Oral English Proficiency for Academic Staff (TOEPAS), and received a holistic result of at least 3 (on a five-point scale). A score of '3' was a preferable score as a selection criterion, as it was hypothesized that lecturers with a result of '3' – good, as opposed to '4' – excellent, would have greater cognitions about teaching outside their first language. Finally, the fifth criterion was that in order to participate in the project, the participants had to be teaching an English-medium course that could be observed and discussed through stimulated recall.

3.2.3 Participant Recruitment Procedure

Prior to contacting prospective participants, I received approval from the Associate Dean of Education at the former Faculty of Life Sciences to conduct this study and received permission to contact the lecturers directly to invite for participation in this project. Approximately 50-60 LIFE lecturers at LIFE received personalized electronic invitations. Ten lecturers qualified under the selection criteria and agreed to participate. One main reason for not qualifying for selection was that lecturers were not currently teaching EMI courses.

Participation in this project was completely voluntary (see section 3.3.6). The lecturers received no compensation for their time. I did provide a copy of the digital video of their lecture that was recorded in connection with the observation and stimulated recall upon request.

3.2.4 Participant Profile

As mentioned above, the participants for this study were all full-time, tenured academic staff employed at the former Faculty of Life Sciences (LIFE) at the University of Copenhagen. Table 3.1 below shows the general information about the participants of both the pilot study and the main study. For the sake of participant anonymity, I have replaced the participants' names with randomly chosen pseudonyms. In addition, I have deleted any references the participants made to their field of study or the languages that they speak. However, the remainder of the personal information, i.e., age, years of experience, academic position, and TOEPAS result, remains unchanged. Thus, table 3.3 conveys only partial anonymization.

Table 3.4 Overview of the Participants

Name	Study	Gender	Position	Age	Number of years teaching	Number of years teaching in English	TOEPAS result
Inger	Pilot	F	Senior Researcher	52	13	10	3
Otto	Pilot	M	Associate Professor	48	18	10	3
Elias	Pilot	M	Associate Professor	39	7	5	3
Nicholas	Main	M	Associate Professor	42	18	6	3
Jon	Main	M	Associate Professor	40	13	3	4
Thomas	Main	M	Professor	62	30	6*	3
Jacob	Main	M	Professor	57	30	20	3
Bodil	Main	F	Associate Professor	40	12	10	3
Lise	Main	F	Associate Professor	41	10	7	3
Tobias	Main	M	Associate Professor	48	20	10	3

*taught for 20 years in an additional foreign language

Table 3.3 shows general background information about the participants including the stage of the study they participated in, the pilot study or main study, and personal data. The personal data includes academic title, age, number of years teaching overall, number of years of teaching in English, and TOEPAS result. This overview of the participants gives a broad picture of the composition of the participant pool. As noted in the table, the pilot study consisted of data collection with three participants: one female senior researcher and two male associate professors. The three pilot lecturers ranged in age from 39 to 52 years old,

with an average age of 46. Among the seven participants of the main study, five were male and two were female. At the time of data collection, they ranged in age from 40 to 62 with a median age of 47. They all teach in the natural sciences and, as tenured staff, they all have extensive teaching experience both in English and Danish. As a group, they have been teaching for an average of 17 years, ranging from 7 to 30 years, with an average number of years of teaching experience in English of 8.7, ranging from 3 to 20 years. None of the participants has lived in an English speaking country for any extended period of time.

3.3 Data Analysis

This section describes the qualitative data analysis process I utilized to categorize and interpret the data collected in the study. A grounded theory approach was used in the design of the study and eventual analysis of the data. Grounded theory is a "qualitative research method that uses a systematic set of procedures to develop an inductively derived theory about a phenomenon" (Strauss & Corbin, 1997, p. 24). As a descriptive study, my preliminary analysis began during the data collection process, as is done in grounded theory procedures. As I describe below, I approached the data, and through systematic analysis derived the themes presented in this study. Thus, in the early stages, the components of the data analysis process were interactive, in compliance with Miles & Huberman's (1984) model of the components of data analysis represented in Figure 3.1.

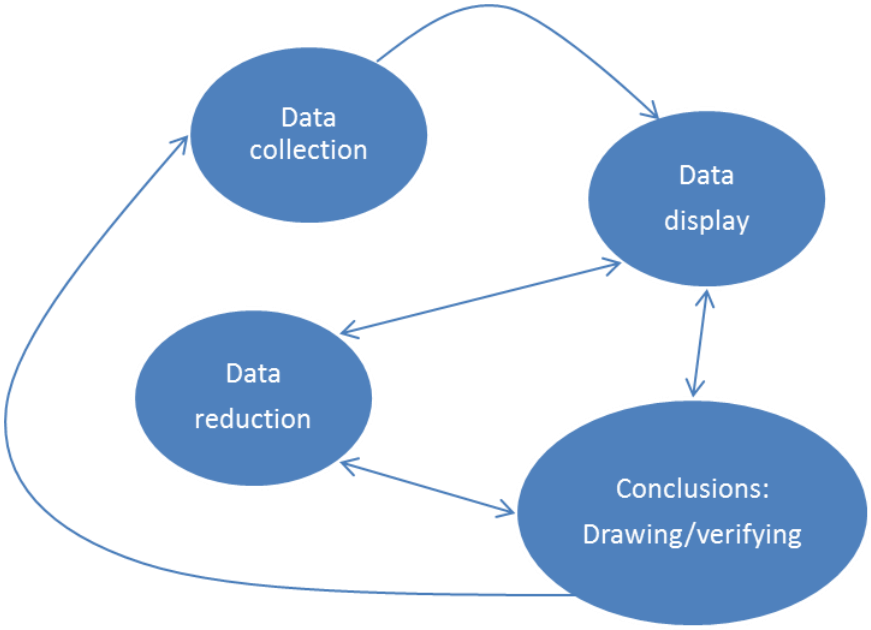

Figure 3.1 Components of Data Analysis: Interactive Model (Miles & Huberman, 1984, p. 23)

To analyze the data, I transcribed all the interviews (see section 3.2.2.1 above). In cases when the interviews were conducted in both English and Danish, code switching occurred throughout the interview. Following the interviews, I simultaneously translated and transcribed directly into English those interviews and sections of interviews conducted in Danish. To ensure accuracy of comprehension and translation of the Danish, random samples of the transcriptions were checked by other speakers of Danish and English. My role as both the interviewer and the transcriber/translator for all the data provided consistency for all the transcriptions. For my research purposes, again using a denaturalized transcription process, I chose to transcribe directly into a 'cleaned-up' version of the interview. During transcription, I eliminated any irregularities and presented the text in standardized American English. Most false starts, grammatical errors and 'Danglish' constructions were eliminated as my focus was on the participants' thoughts and concerns related to teaching in the EMI classroom, not on how they articulated their ideas.

I reviewed the interview transcripts as a set after each stage of data collection, i.e., the pilot stage and the main study stage. During the pilot stage of the project, coding and analysis were

conducted by hand, sifting through the transcripts for emerging codes. The preliminary findings set the stage for further open coding. Ultimately, after the data collection was complete in the main study, for expedient coding and retrieval of data, I chose to utilize NVivo 10, a computer assisted qualitative data analysis (CAQDAS) package, where I stored all data records, audio and video, as well as transcripts.

After two rounds of open coding in the CAQDAS program, I began thematic analysis for identifying, analyzing, and reporting patterns or themes within the data. At the beginning of the analysis, I did not have a theoretical framework as a foundation for my study. Prior to starting the first cycle of open coding of data, I reviewed the categories that had materialized during analysis of the transcripts from the pilot participants and created some pre-coding categories (Saldaña, 2009, p. 16), noting significant themes and quotes. I used these as a guide for further investigation. With this pre-coding in mind, I continued with the first cycle of initial open coding of the transcripts. Here, I decided to start with the big three terms that had been driving the project, namely professional identity, professional expertise, and professional authority. From there, I continued to code data spontaneously as I read through the data. Along with the open coding, I also created two conceptual categories entitled *card sorting 1* and *card sorting 2*. In these categories, I placed any comments made by the participants that related to any of the prompts from those two activities. This coding helped me to both observe frequency of commentary and describe the data.

At the end of the first cycle, I had 67 categories, as well as 30 categories in the card sorting codes (including comments from both the pilot study card sorting prompts and the main study card sorting prompts). Many of these conceptual categories overlapped each other. For example, in the first cycle, I had categories that were quite similar to each other such as *language concerns*, and *pronunciation*, *grammar*, or *vocabulary*. These categories contained much of the same data. I had also double and sometimes even triple coded some data into a variety of categories. Wanting to reduce the number of categories, I began a second cycle of coding, and merged and eliminated codes based on frequency and significance. After a second and third round of open coding and reviewing of data, I merged codes into eight broad categories that included several subcategories. Ultimately, after a mining the data in a fourth cycle of coding, and combining the overarching codes through thematic analysis (Saldaña, 2009), three general themes related specifically to this study emerged:

- My relation to the code: Not a language issue

- I don’t know what they know: Different frames of reference
- The secret to my success: Experience and growth

In addition, analysis of the data generated an overall model of *teacher identity*, which is used throughout the analysis and discussion of the results to discuss the above mentioned themes (see section 4.2).

3.3.1 My Position in the Study

My role as the researcher in this study, including my nationality (American), my L1 (English), as well as my experience as one of the developers and examiners for the TOEPAS, plays a role in the responses of the participants to the entire study, from invitation to participate, to data analysis. However, I believe these elements, as well as my age and teaching experience, may have been a benefit in this study as they provided me with a status of credibility and allowed me to build a strong rapport with the participants. Of course, these aspects of my background also play a role in my analysis of the data in this study.

My interest and focus on English-medium instruction and, ultimately, this study stem in part from my role as a native-English speaking applied linguist in a Scandinavian context. As a resident in Denmark for the past 16 years, I have experienced the internationalization process of higher education from within the Danish university system. My former position as the director of a Danish university language center for over a decade directed my attention to the needs of the academic and administrative staff in the university sector during these changing times. For a number of years, my role has been to identify and address the language needs of those who suddenly had to, often with little preparation, teach their subjects in English. Thus, I have had an insider perspective for quite some time, both as a language professional, but also as a friend and advisor to my colleagues who approached me in the earlier days of EMI in Copenhagen looking for advice and training, or sometimes just a sympathetic ear.

I also approach this project with an outsider’s perspective. I am a mother-tongue English speaker and, given the extensive range of electives offered through EMI, I have not had to teach content courses in my second language. In my position as a researcher, aware of the English proficiency of my participants, I can fall back into English, if necessary, to express

myself with more nuance and explicitness, a luxury my participants do not have when teaching in their second/foreign language.

3.4 Limitations & Strengths

The limitations of this study include a small, selective sample and narrow setting used to recruit participants. To begin with, the selection criteria limited the nature of those who could participate in this study. In general, Denmark has a reputation for having a high level of English language proficiency in the general population. As all participants in this study are Danish, one could argue that the data might have been different had I conducted the interview in a different setting. In addition, the fact that all the participants come from the natural sciences may also be considered as a limitation to the generalizability of the study. Findings of this type of research may generate different results with participants from different academic disciplines such as the social sciences or humanities. And, of course, limiting the selection to participants whose English language proficiency had been assessed as good enough to teach through the medium may have affected the outcome of the study. Since the 10 participants contributed on a voluntary basis, they are perhaps not representative of all members of their institutional faculty or of those in natural sciences. Lastly, the availability of participants who currently teach in English, and were willing to participate, lends additional limitations to the study.

In some respect, some of the limitations listed above can also be considered strengths of this study. Unlike much of the EMI research, I limited the participant pool to lecturers from only one discipline. This eliminates, to some extent, the influence of difference in disciplinary background on the responses of the participants. Additionally, observation of teaching took place live, in class, and not in a simulated setting. Furthermore, all the participants included in this study were tested on a standardized oral proficiency test that was developed specifically for academic teaching staff. Lastly, this study puts the findings into a teacher cognition paradigm. I relate the participants' reflections to aspects of professional identity and focus directly on the affective consequences of the change to EMI on this identity.

3.5 Validity & Reliability

As with any type of research, validity and reliability have been matters of consideration for this study. Quality consideration has been a disputed topic for qualitative research for some time (Dörnyei, 2007). The concept of trustworthiness has therefore been suggested (Lincoln & Guba, 1985) in response to criticisms regarding the validity of results in this paradigm. In comparison to the concepts of validity, reliability, and objectivity that are part of the 'scientific method' of quantitative research, trustworthiness comprises establishing four similar yet slightly different elements: credibility, transferability, dependability, and confirmability.

More applicable for case study research, however, are four tests that have been used to establish the quality social science research (Yin, 2008). These are tests of construct validity, internal validity, external validity, and reliability. The elements of these fours tests should be built upon throughout the case study process.

To increase construct validity for this case study, I used multiple sources of evidence in the data collection phase of my study. In constructing this case study, e.g., selecting my research methods and test population, I drew on the results of previous studies in order to identify the appropriate concepts to investigate. In addition, I established a chain of evidence in the data collection phase, e.g., through interview transcripts and analysis memos. However, one area of weakness in this project is a lack of participant feedback. While I have received continuous feedback from peers and advisors throughout all the phases of my research, analysis, and writing process, the participants in this case study were not given the possibility to review this report, and give their comments. Obviously, feedback from the participants would have strengthened the construct validity of this report.

With regard to internal validity, I believe the use of well-established research methods for data collections, methodological triangulation, as well as my familiarity with the activities at the Faculty of LIFE and experience as a classroom teacher, not to mention continuous feedback from peers and advisors, provide the study with credibility. Next, by design, my case study addresses concerns of external validity, i.e., generalizability. By providing as much information as possible about the case study location and the background of the participants in this study, I believe I have provided readers the opportunity to understand the

situation described in the report, and determine how comparable the information is to their own situations.

Lastly, in regard to reliability, I have provided as much information as possible about the case study location and the background of the participants in this study. I have also included a detailed description of the data collection process. This rich description of the research design and its implementation, the operational detail of the data collection, and the reflection on the effectiveness of the process, lends to the reliability of this study.

3.6 Ethical Considerations

Basic principles of ethics in qualitative research have been implemented in this study. As the research included observations, as well as two different methods of verbal commentaries, i.e., stimulated recall and semi-structured interviews, it was vital that principles of informed consent were followed (Arksey & Knight, 1999; Bailey & Nunan, 1996; Berg, 2007; Dörnyei, 2007; Gass & Mackey, 2000). "The nature of informed consent implies voluntary agreement to participate in a study about which the potential subject has enough information and understands enough to make an informed decision" (Gass & Mackey, 2000, p. 27).

As outlined above, all the participants in this study voluntarily opted in and the research carried no risks for participation. Participation can actually be considered a benefit for participants in regard to reflective practice in EMI, as well as contribution to research in a developmental area. Personal invitations outlining the requirements of participation in the study were sent by email to potential participants (see Appendix E).

In order to alleviate uncalled stress or pressure on the participants, observations schedules were set up at their convenience and their discretion. In addition, the stimulated recall and interviews were conducted in English and Danish, according to each individual's preference. Prior to participating in the stimulated recall, participants received consent forms, which described the project goals in detail and clarified issues of confidentiality (see Appendix F). These consent forms were not distributed prior to the observations because I did not want the participants to focus on their cognitions while teaching. It was important that teaching took place as naturally as possible, given the situation. As Gass and Mackey (2000) note, there may be times when it is not feasible to fully disclose all the information about a project. Such

was the case with this study, since the observation posed no risk for the participants, and the broader focus of the research was clarified to the participant (Dörnyei, 2007; Mackey & Gass, 2005). In line with standard practice, then, I received written consent from all the participants to proceed with the study with their cooperation. The consent form provided the participants with not only a description of the study, but also explained that the data from the study would be kept confidential, and that participant anonymity was guaranteed. In addition, I made it clear to the participants that they could opt out of the study at any time. For the sake of convenience, and to promote a safe environment, both the stimulated recall and the interview sessions were held in the participants' offices. Lastly, the participants were all provided on request digital copies of the recorded observations and the accompanying transcript of the event for their own personal reflection.

Whether or not the findings of this study have applicability beyond this case is of course up for debate. However, I am confident the findings provide insights into teacher identity in the EMI context in higher education in the natural sciences and may be applicable across other domains. The results of this study contribute to the present research knowledge in the field of EMI, not only for experienced academic staff. The results also help to advocate for less experienced lecturers, or those with lower proficiency levels in English, by shedding light on the current perceptions teachers, as well as the continuing education needs and in-service training efforts of this population in the university setting.

3.7 Summary

This chapter has outlined the research paradigm, research methodologies, and design of this study, including participants, data collection instruments, data collection, and analysis methods. A qualitative approach was adopted to explore an area of limited research. The methods employed allow for a comprehensive analysis of the overarching issue addressed in this study. Semi-structured interviews served as the principle tool for collecting data. However, data from the classroom observation and subsequent stimulated recall sessions enhanced the development of the interviews. The interview questions and follow-up discussions with the participants were based on the experiences from the observation and the stimulated recall. The rich description of the process and the analysis accounted for concerns

of reliability and validity. Finally, basic principles of ethics in qualitative research have been implemented in this study.

CHAPTER 4:
Results

4.1. Purpose and Scope of the Chapter

In this chapter I present an analysis of the data collected from the semi-structured interviews I held with the participants. I analyzed this data set, including the two card sorting activities, using qualitative thematic analysis. This chapter reports an emic interpretation of the data. Throughout the chapter I present examples of the participants' ideas in their own words via direct quotes from our conversations. As a teacher cognition study, the results presented here document the participants' thoughts about their teacher identity in the EMI context. I have sought out patterns in the participants' responses that enable me to make sense of their voices. I organize this chapter around four main areas of consideration which emerged from the data.

To begin with, I present a model in section 4.2 that evolved from the participants' descriptions of key prompts used in this study. This model establishes a baseline definition for the concept of *teacher identity* that I use as an umbrella term throughout the rest of the chapter. This section describes this model of teacher identity that derives from the recurring definitions and relationships in the data that the participants assign to the categories I have termed *professional identity*, *personal identity*, and *institutional identity*. I include results from card sorting activity 1 in this section. The subsequent sub-sections of section 4.3 address three additional broader themes that emerged from the data set related to this model of teacher identity. In section 4.3.1, I present the participants' thoughts about their teacher identity in direct relation to language, in particular with the shift from teaching in Danish, their L1, to teaching in English, their L2. In section 4.3.2, I present the participants' thoughts and concerns regarding the diversity they have encountered in relation to the student population, and how that has or has not affected their teacher identity. In these two sections, I include findings from card sorting activity 2 that are related to reflections about pedagogic and compensatory strategies in the EMI setting. Finally, in section 4.3.3, I consider the role of experience and growth on the participants' reflections about the effect of teaching in an EMI context on their teacher identity. In this section, I include their thoughts about the mandatory

language proficiency test, the Test of Oral English Proficiency for Academic Staff they each took over the course of 2009 - 2010.

Terminology Clarification in Relation to the Interviews

1. Dropping the word 'professional':
   The prompts **professional expertise, professional authority,** and **professional identity** were placed on the table in front of the participants throughout the entire interview sessions (see section 3.1.2.3, for more details). During the interviews, the participants did not always differentiate between the terms professional expertise, professional authority, and professional identity and the terms expertise, authority and identity. Given the presence of these prompts, the participants often abbreviated the terms, dropping the word *professional*, or simply pointing at the prompt using the cue 'this' in their responses. The data has been analyzed using the context and responses to the interview questions.

2. Professional identity vs teacher identity:
   The term *teacher identity* derives from the analysis. Unlike the terms referred to in point 1 above, this term was never presented explicitly to the participants. The participants were not given an overall term through which to describe this global concept. Therefore, at times in their responses, the participants interpret and use the term professional identity in two senses: 1) as the combination of their professional expertise and professional authority, and 2) as a general, global term for what I call teacher identity in this analysis.

3. The use of the term authoritative as a teaching style is not to be confused with the concept of professional authority. During the interviews, the participants occasionally use the single word authority to emphasize their interpretation of professional authority. Again, context plays a role in clarification to the terminology.

4.2. My 'Teacher Identity': Professional Identity, Personal Identity & Institutional Identity

In the third cycle of data collection for this study, I met with each participant for a face-to-face, semi-structured interview. Prior to this meeting, the participants had not been informed of the exact focus of this study. Where earlier meetings had focused on actual teaching events and reflections on their actions during these events, it was when we met for this interview that I first asked the participants to reflect on elements of what I now refer to here as their *teacher identity*. At the start of each interview, I asked each of the participants to define three specific concepts: *professional expertise*, *professional authority*, and *professional identity*. It was their interpretation of these terms that steered the course of our conversation. Figure 4.1 models the relationship between these three concepts and the construct of *teacher identity* that resulted from analysis of the data from these conversations.

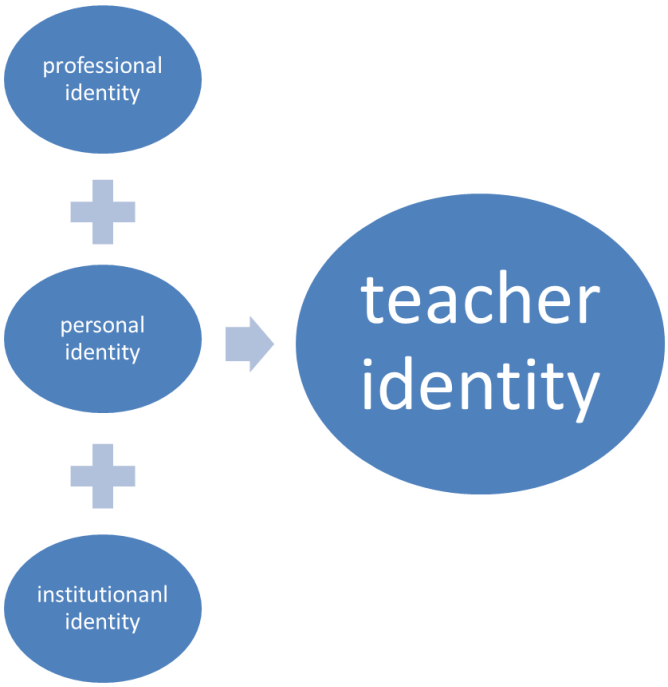

Figure 4.1 Three elements of Teacher Identity

As seen in the figure, the participants' reflections suggest that their teacher identity is comprised of components they categorize under the headings of *professional identity, personal identity, and institutional identity*. As I describe in the subsequent sub-sections, these three elements, although intertwined to create an overall interpretation of *teacher identity*, include individual elements of their own. I report statements from the participants that present their descriptions and cognitions regarding these three types of identity and how they ultimately relate to their overall teacher identity, in particular in relation to the shift from traditional Danish content instruction teaching to EMI.

4.2.1. Professional Expertise, Professional Authority, & Professional Identity

At the start of each of the interviews in the main study, I placed cards with the words *professional expertise*, *professional authority*, and *professional identity* on the table in front of the participants for their consideration (see section 3.1.2.3). I asked the participants to clarify what each of these concepts meant to them. Given the range of definitions of professional identity and teacher professional identity in the literature (see section 2.3.2) and the exploratory nature of this study, I was eager to find out how the participants defined these main concepts, rather than impose on them my own preconceived definitions, that is, to consider the emic perspective.

Prior to discussing how the shift from the Danish-medium classroom to the EMI classroom may or may not affect the participants' teacher identity, each of the participants reflected on the three concepts, their meaning, and what, if any, relationship existed between the concepts. Analysis of the participants' responses shows similar perspectives about the definitions of these terms. According to the participants, *professional expertise* is interpreted and used in relation to the specific knowledge you have acquired. *Professional authority* is interpreted as how others see you, in relation to what you know and your status. Together, these two aspects make up *professional identity*. Below, drawing on the voices of the participants, I expand on these terms and clarify the participants' interpretations of them.

4.2.1.1. Professional Expertise

Professional expertise was defined across the board by the participants as the knowledge they possess. Basically, these are areas in which they consider themselves experts. This knowledge falls under two categories: 1) *disciplinary content knowledge* and 2) *pedagogic* and/or *pedagogical content knowledge*. This relationship is graphically displayed in Figure 4.2.

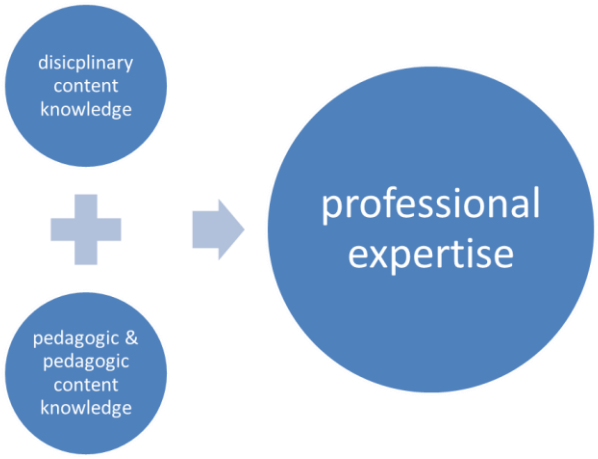

Figure 4.2 Lecturers' Definition of Professional Expertise

In the next two subsections, I explain the elements depicted in Figure 4.2., and provide examples of the participants' descriptions of these types of knowledge.

Disciplinary Content Knowledge

To begin with, the participants describe one aspect of their knowledge base as domain specific and representative of their expertise, in particular subject matter:

> *… that you are well into your subject and you know what you are talking about. …and that is what I like to, when I teach, I like to be the expert who knows what I am doing or dealing with. (Tobias; interview)*

Here, Tobias's comment shows a strong sense of what is important for him. He expresses that he *likes* being the disciplinary content expert and knowing what he is doing. In addition to

this personal sense of knowing, the informants stress that the content knowledge is topical and relevant for the students and teaching. For example:

> *The expertise is my work and my working experiments. I have an expertise in, now we are talking about the course, I guess. That I have an expertise in the area that I am actually teaching and doing my research in. So that is what I mean by expertise. (Lise; interview)*

For both Tobias and Lise, this domain specific knowledge is particular to each individual. As academics, they are the experts and possess something others do not.

However, this professional expertise is not static. Instead, it is described as dynamic and changing. In the definition of expertise, there is allowance for the gain or loss of domain specific knowledge. Jacob describes this flow from his own experience. He explains that on the occasions when he is selected to referee a journal article, for example, he is not selected because of his personal identity (see section 4.2.2) or because of his status as a professor, his institutional identity (see section 4.2.3), but because he specifically knows about a particular method or concept. However, over the course of his career, this domain content knowledge base has changed. Jacob has become more knowledgeable in some areas, and less knowledgeable in others. As his interests and expertise change and grow, he begins to rely on his younger colleagues to pick up on the areas where his knowledge is no longer state of the art. He clarifies:

> *…So that is some sort of my expertise. And one could say this – well this one is maintained over the years (ed., professional identity), this one (ed., professional expertise) is something linked a little bit to my profession, this one – it changed because some of my specific expertise is actually, one could say lost, because I don't work with that system or that method anymore. Some of the younger staff members would be the right people to ask about this. And then I get some other professional expertise, one could say, to some extent I get a little bit more now professional management expertise because I am leader of this and that. And that so have this sort of expertise and some of the going to the microscope and doing this and that, I am simply less good at that now, then I was 10 years ago. So this one (ed. professional expertise) is drifting a little bit. Not necessarily for the worse – but if you draw a circle of what I can do, then part of it changed. (Jacob; interview)*

According to Jacob, this flux in his professional expertise does not diminish his professional identity. On the contrary, it is an element of the total package of being a professional. So, the first element of the participants' *professional expertise* is their domain specific knowledge in the natural sciences.

Pedagogic and/or Pedagogical Content Knowledge (PCK)

While the participants are experts in their disciplinary content knowledge (subject matter knowledge), this knowledge (expertise) does not exists in isolation. As university lecturers they also define their professional expertise by their pedagogic and/or pedagogical content knowledge (PCK) (see section 2.4.1). The lecturers have knowledge about how to best interact and instruct their students. This type of knowledge has been acquired from explicit training courses and years of classroom teaching experience. Over the course of the interviews, the participants spoke quite a bit about their thoughts about teaching and their preferred instructional styles. For example, Nicholas describes with great passion his approach to teaching and student interaction. In his comments, Nicholas draws on his knowledge of pedagogy and didactics to create an atmosphere of inclusion and application of content knowledge. He describes this application and its relation to his disciplinary content knowledge:

> *I think it is important in a, I mean that only reason to bring a small crowd together is in order to actually take an interest in the individuals. And the only way to do that is by showing up knowing that you know everything you possibly have to teach them, and you can go out on these different courses and these different directions but you can do that in a way where you actually involve the students and their problems. And that, well, it is usually the best way to learn something is to put it into your own context. (Nicholas; interview)*

Knowing how to engage the students is also a quality that Tobias values. In the following example, he describes his thoughts about the best ways to reach the students.

> *But what is important to me that there is contact and dialogue with the students, so that I am not one who just stands up – of course there are some periods when you say a lot – but I try to be aware of the atmosphere, if they are falling asleep, or if they have something they want to say. And as a point of departure, I figure that many of the students sitting there can actually do a great deal. So, the ideal situation is not that I do it myself, but if I see myself as the ideal teacher, I would be open to allow the students to contribute a lot along the way. Yeah, that is no. 1. (Tobias; interview)*

These comments illustrate the participants' awareness of the importance of their expertise in this type of knowledge. They describe their desires to stimulate, interact with, engage and

connect with the students. Having the pedagogic expertise to achieve this is a strong element of who they are as teachers. As the University of Copenhagen places a great deal of energy on improving teaching in STEM[20] (science, technology, engineering, & mathematics) disciplines, it is not surprising that the participants in this study recognize pedagogic knowledge and PCK as specific elements of their expertise. This is explored in greater detail in section 4.3.1. Thus, from the data, it appears that the professional expertise of this case study population comprises not just disciplinary content knowledge, but also knowledge related to teaching.

4.2.1.2. Professional Authority

According to the participants, while the *professional expertise* described above comprises the possession of domain content knowledge and pedagogical/pedagogical content knowledge, *professional authority* results from acknowledgement of one's knowledge. According to Nicholas, this professional authority should keep students coming to class and inspire their interest:

> *I try to see them as kind of blended in a sense that I would to express enough (professional) authority to be seen as somebody who worth listening to so that my, sort of, expertise is accepted as, OK, this might be worth staying on for. (Nicholas; interview)*

The reference to this external evaluation, in particular by the students, includes concepts of expectations and trust. Lise reflects on the expectations of professional authority by the students and notes concerns because these expectations often exceed the boundaries of her professional expertise. The students have expectations of what a teacher is, and these expectations differ depending on the audience.

[20] The Faculty of Science at KU houses the Department of Science Education (DSE). DSE conducts research in science education and the theory of science with in the natural sciences. DSE is the largest research unit in this field in Denmark. (For more information, see http://www.ind.ku.dk/english/about/.)

> *And (professional) authority, you can say, when you are with the students, I guess they look at me with, as I would have some kind of (professional) authority because, you know, I am the experienced one, I am the one that actually stands there lecturing. So, and I actually feel that because they come and ask me a lot of different things and just expect that I can answer nearly any question. So they really have expectations of me as a teacher. (Lise; interview)*

From Jon's perspective, professional expertise is a prerequisite for professional authority:

> *well, I see these two as quite similar and yet different in the way that, I have a lot of professional expertise and I can use that, especially in some situations to actually exert some (professional) authority, but that one (professional expertise) is a requirement for that one (professional authority). (Jon; interview)*

Jon focuses a great deal on his audience and clarifies the connection between professional expertise and professional authority quite succinctly. Without hesitation, Jon notes that he is a leading international authority in his field. For those at more advanced stages of their education, Jon's reputation precedes him. Professional/continuing education students in his field are fully aware of his professional expertise and give him professional authority when he conducts a specialized workshop or seminar. However, Jon says that this is not necessarily the case when he teaches larger survey courses at the master's level. The difference in the acknowledgement of his knowledge base, i.e., the acknowledgement of professional expertise, by different populations changes the way he teaches.

> *No, because in order to have this one (professional authority), the students need to know me and they don't really know me. Well, I would say in PhD courses where we have intensive smaller classes, intensive learning, I know that they know me a bit more at the end of course. But in general, I feel that that they don't really know me.*
>
> *Except I have been teaching some XX[21] practitioners – in my specific field, and I am the professional authority in this field. They know I have the expertise so professional identity. And of course, I use that in teaching in that, it is easier to, when you are the one knowing it all, it is very easy to walk in they will believe anything say – whereas in a classroom where I have to teach XX more broadly, as like, you are not necessarily the authority therefore you have to teach slightly differently. (Jon; interview)*

[21] To preserve Jon's anonymity, the subject matter he mentions has been deleted.

Jon clearly defines the acknowledgement of his professional expertise as his professional authority and adjusts his teaching according to how acquainted his students are with his reputation.

4.2.1.3. Professional Identity

The comments above begin to show a consensus among the participants that professional identity comprises their individual domain content knowledge and the recognition of this expertise by others. The reflections of the participants postulate the equation: *professional expertise + professional authority = professional identity*. Figure 4.3 illustrates the relationships of the elements described thus far that feed into the participants' description of the professional identity.

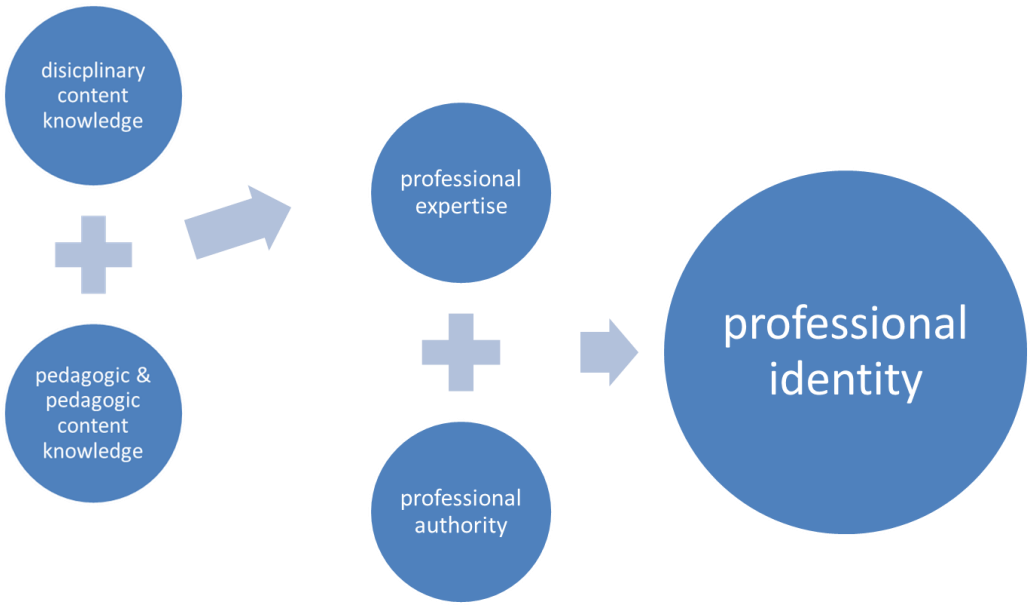

Figure 4.3 The Elements of Professional Identity

In the model presented in Figure 4.3, the two circles on the left represent the types of knowledge the participants recognize in themselves that make up their professional expertise. The middle of the model then represents how professional expertise and professional authority feed off each other and constitute the bedrock for forming one's *professional*

identity. Expertise, i.e., disciplinary content knowledge and pedagogic/PCK, and the acknowledgement of that knowledge by others intertwine to create one's professional identity. Lise and Elias describe their perceptions of their professional identity and the difficulty in teasing these elements apart:

> *Yeah – but they all come together. It is part of the same thing. That I wouldn't get the expertise or I think I get the expertise due to having this professional identity, then I want to learn more and expand. And then, you know, I broaden up my expertise, you can say. And I think when the students look at me, by having this professional identity, I also even more have this (professional) authority toward the students. (Lise, interview)*

and

> *I, today, see myself as, primarily an XX*[22] *and as a user of theoretical methodology. So I have that as an identity. And I have my expertise. And I have an authority – maybe not in regard to teaching. But the students should know that when I say something it is because it is correct. You can discuss it, but they should trust that although I can't answer everything and may say I don't know everything. But they should understand that it is like this or that. Then I should have an authority –and I think I do. And this is something I have gotten and become a better teacher. Before I might have said something that I had read, but now I have more authority. And this can come through in my teaching. (Elias, pilot interview)*

Thus, professional identity comprises a combination of their professional expertise and professional authority. This professional identity is drawn from one's academic training and is subject matter related, and is more and more established with experience over time. However, this identity can fluctuate, depending on the audience and subject matter. With each new course, each new area of study, they shift their level of professional expertise and professional authority. They may need to develop new areas of expertise when confronted with a new setting, e.g., suddenly becoming an EMI teacher in addition to being a 'subject X' teacher. Thus, professional identity tends to be discipline based and linked closely to content knowledge, pedagogic knowledge, and pedagogic content knowledge.

[22] To preserve Elias's anonymity, the subject matter he mentions has been deleted.

4.2.2. Personal Identity

The second element of *teacher identity* described by the participants is *personal identity*. Personal identity includes the characteristics teachers bring with them into the classroom and the university setting from their personal lives and experiences. Our personal identity is made up of personality characteristics that can affect all aspects of what we do, how we react to a variety of situations, and how we are perceived. For the purpose of this study, personal characteristics related to the act of teaching are addressed and considered. As seen in the data, these characteristics can be considered both positive and negative.

I utilized a card sorting activity as an elicitation device to access the participants' thoughts about their personal traits and their personal identity. This section describes the responses of the participants to the first card sorting activity they were asked to complete during the semi-structured interview. As described in Chapter 3, the semi-structured interview involved two card sorting activities: 1) categorizing descriptive terms and 2) reflections on teaching strategies and compensatory strategies in the EMI classroom. In the following section I present the results for **card sorting activity 1,** in which the participants were asked to reflect on a series of descriptive personal characteristics and to state whether these words applied to them when they teach in English as compared to when they teach in Danish.

Card Sorting Activity 1

Card sorting activity 1 required the participants to state if they believed the term applied to them in the EMI classroom in comparison to the Danish-medium classroom and to consider if a word had positive or negative connotations. The participants read each prompt individually and placed each individual card into one of three piles in relation to their own teaching experience in English as compared to teaching in Danish: 1) applies; 2) sometimes applies; 3) does not apply. The participants were instructed to place each card into one of the three piles; they were asked to reflect on each word, with particular focus on positive words that they did not feel applied to them and negative words that they did believe applied to them. Throughout the activity, they were asked to consider this characteristic and its relation to their professional expertise, professional authority, and professional identity when they taught in English compared to when they taught in Danish. Table 4.1 below shows the overall responses of the participants to card sorting activity 1, based on their perception of the terms as positive, negative or both.

Table 4.1 Card Sorting Activity 1: Overall Results

Participants		Inger	Otto	Elias	Jon	Nicholas	Thomas	Jacob	Bodil	Lise	Tobias
Gender		F	M	M	M	M	M	M	F	F	M
Study		pilot	pilot	pilot	main	main	main	main	main	main	main
Age		52	48	39	40	42	62	57	40	48	41
Number of years teaching		13	18	7	18	13	30	30	12	10	20
Number of years teaching in English		10	10	5	3	6	6*	20	10	7	10
PROMPTS	+/-										
Approachable	+	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Authoritative	+/-	N	S	N	N	N	N	S	Y	Y	N
Awkward	-	–	–	–	N	N	N	N	N	N	N
Confident	+	Y	Y	Y	Y	Y	S	Y	S	Y	Y
Embarrassed	-	–	–	–	N	N	N	N	N	N	N
Effervescent	+	–	–	–	N	S	Y	Y	S	S	N
Fumbling	-	Y	N	N	Y	N	Y	S	N	N	S
Humorous	+	N	S	S	Y	Y	Y	Y	S	S	Y
Improvisational	+	N	Y	S	N	Y	Y	Y	Y	Y	N
Inhibited	-	N	N	N	N	N	Y	N	Y	N	N
Insecure	-	S	N	N	N	N	Y	N	Y	N	S
Knowledgeable	+	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nervous	+/-	Y	N	S	Y	N	S	N	S	S	N
Secure	+	Y	Y	S	Y	Y	Y	Y	N	Y	Y
Spontaneous	+	N	Y	Y	N	Y	Y	Y	S	Y	S
Stupid	-	N	N	N	N	N	N	N	N	N	N

– = prompt not used in the pilot interview card-sorting activity 1
Y = yes, this applies to me when I teach in English
S = this sometimes applies to me when I teach in English
N = no, this does not apply to me when I teach in English
*taught in another foreign language for 20 years

The names of each of the participants, their gender, age, and the study in which they participated (i.e., pilot study or main study) are listed at the top of the table. The rows below this present the number of years of teaching experience overall and the number of years of teaching experience in English. In the table below, the specific answers by the participants are listed for each prompt: 1) if the prompt was considered positive (+) or negative (-), and 2) as either yes (Y), no (N) or sometimes (S). For the purpose of this report, the prompts have been translated into English. However the participants viewed the words in Danish.

Positive Attributes

Beginning with the terms that the participants labeled positive, we can see that there is a strong tendency for these individuals to claim that when teaching in English they feel **confident, secure, approachable** and **knowledgeable**. Table 4.2 lists alphabetically the responses of the participants to the prompts that they considered to be positive attributes for a teacher and an academic. From the table we can see the extent to which the 10 participants claim that these terms apply to them or sometimes apply to them in the EMI setting. Below I provide examples of the participants' responses.

Table 4.2 Responses to Prompts Deemed Positive by the Participants

(+) PROMPTS	Inger	Otto	Elias	Jon	Nicholas	Thomas	Jacob	Bodil	Lise	Tobias
Approachable	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Confident	Y	Y	Y	Y	Y	S	Y	S	Y	Y
Effervescent	–	–	–	N	S	Y	Y	S	S	N
Humorous	N	S	S	Y	Y	Y	Y	S	S	Y
Improvisational	N	Y	S	N	Y	Y	Y	Y	Y	N
Knowledgeable	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Secure	Y	Y	S	Y	Y	Y	Y	N	Y	Y
Spontaneous	N	Y	Y	N	Y	Y	Y	S	Y	S

– = prompt not used in the pilot interview card-sorting activity
Y= yes, this applies to me when I teach in English
S= this sometimes applies to me when I teach in English
N= no, this does not apply to me when I teach in English

Confident, Secure, Approachable & Knowledgeable

Eight of the 10 participants believe the word **confident** applies to them in the EMI classroom, e.g., comments such as "*I think it is just the same*," (Nicholas; interview), "*I think that would be me as well*," (Jon; interview), and "*I do feel confident, yeah*." (Otto ; pilot interview) The two remaining participants, Thomas and Bodil, responded with 'sometimes applies.' However, although they think that the term only applies to them sometimes, these two participants' interpretations of the word differ from each other. For instance, in this activity Thomas notes that the term confidence applies to him sometimes, as opposed to all the time, in reference to reflections on teaching situations when he found himself unsure of how to progress in terms of teaching the content of his lesson. It appears that Thomas has interpreted the word quite broadly and responded directly in relation to his broad experience as a teacher. When he says this does not apply to him all the time, his response is not linked to a shift to EMI or a change in teaching language, but rather reflections on his general pedagogic skills in the classroom.

> *Confident– yeah, that ties together with nervous, doesn't it? I can get into situations where I can't explain things the way I want to. So obviously, you can find yourself in a situation where you feel insecure…But it is not insecurity that can't be overcome – but to use time and energy on this type of situation during a much longer [classroom] discussion. … I have experienced sometimes and I become insecure and also a little nervous because – should I just cut off the discussion? That often just leads to the assumption –'oh, he won't even have this discussion' – and if I take on the discussion, then there are 30 students sitting there, right? … whew. And this is a part of that concept of confidence. (Thomas; interview)*

This is essentially the same description given by the other eight participants, noting how this personal characteristic has an effect on professional authority (and thus professional identity). In contrast, Bodil notes that her occasional lapses in confidence are related specifically to language when teaching in English, if she finds herself searching for vocabulary:

> *Confident: this is also a positive word – it is a lot like 'effervescent' – I actually think I am pretty confident in English, but every now and then when I am searching for a word, I can get a little less confident. (Bodil; interview)*

Interestingly, Bodil is the only respondent to specific make reference to language.

In responding to the applicability of the term **secure,** preparation and experience stand out as the main sources of the participants' almost unanimous response. Other than Elias, the least experienced of the 10 participants, all the participants stated that this word applies to them

when teaching in the EMI classroom. This feeling of security is explicitly stated as being as part of their personal identity and includes elements of confidence, safety, and a positive atmosphere in a teaching environment, regardless of language of instruction. For example, Jacob believes that feeling secure is a vital part of his classroom persona:

> *Secure – a very positive term. Should always feel confident and safe in any situation.… Yes, it applies. What I would say basically with this term. I feel very confident – I am the authority, but I also feel positive and confident talking to the students socially. Making small jokes about this or that. I hope they see it the same way. (Jacob; interview)*

This feeling of security and confidence, as noted above, appears to be linked to the concepts of preparedness and teaching experience.

> *I feel basically confident – it also has something to do with feeling well prepared. It is clear that if you are dealing with new material where you are not sure about the content and feel that you may not have prepared well enough – but again if that has anything to Danish or English, I don't think there is a big difference. (Otto; pilot interview)*

and

> *secure: also a positive word. For me, it all depends on how prepared I am. If I am well prepared, then it is the same for both languages. (Bodil; interview)*

Likewise, Elias also expresses the relationship between security and experience when he says: "*secure – not always – more with time – sometimes*."(Elias interview) As he continues to teach, regardless of language, he becomes more secure in the classroom. The role experience plays for the participants is expanded upon in section 4.3.3.

The participants all believe that they are **approachable** in the classroom, regardless of the medium of instruction. They find this to be a positive and vital quality of a good teacher: "*I think this is absolutely in any respect when you meet people at the same human level. One should be, always."(Jacob; interview)* Being engaged and having contact with the students appear to be essential elements of the participants' definition of being a good teacher. Jon goes as far to say that he thinks that he may be more approachable when teaching in an EMI setting than in a homogenous Danish setting *"simply because I don't feel I know the audience as well." (Jon; interview)* With the mixed student population, Jon opens himself up and tries to connect with the students because of a lack of shared tacit knowledge.

The participants responded similarly to the term **knowledgeable**. This was unanimously considered a positive term which applied to all of them, regardless of language, e.g., *"but it applies to both languages." (Thomas; interview)* and *"well, I have the same knowledge when I teach in English" (Jon; interview).* However, there were different interpretations of term. In some cases, knowledgeable referred to the level of content knowledge that each professor has and can pass on to their students (see section 4.2.1 above). In other cases, the interpretation linked beyond content knowledge and PCK to a broader definition of teacher identity that includes aspects of professors as a counselors, advisors and teachers:

> *knowledgeable – yes. I don't want the students to be left with the impression that I know everything. But I would be happy if they feel that I know a lot and I can stimulate them to know a lot and by approaching me later they can get some sort of advice or assistance to move on in their career. …*
> *So this could apply about the subject, but another thing is that by talking to them, that I am knowledgeable about networks and ways to help them. This is more the broad scientific identity that basically, yeah. (Jacob; interview)*

Humorous & Effervescent

The ability to use humor when teaching is an area discussed quite often in the EMI literature (see section 2.1.2). Reflections in this study on the use of **humor** and effervescence resulted in more mixed responses. In regard to being humorous, two participants claim that the term does not apply to them in the EMI classroom, four think it applies sometimes and four feel it applies to them when teaching, regardless of the medium of instruction, i.e., Danish or English. The participants explain that the use of humor in teaching is linked closely to their personal identity and their conceptions of teaching.

For some, humor is just not part of their personality:

> *Humorous – I am not really the type who stands and fires off jokes. There are people who do that. … There are some that are always using humor – I don't. (Lise; interview)*

and

> *Yeah, in one way I would like to try to be more entertaining. But on the other hand, it didn't work well for me… I do have some stories that I find funny. But, I mean, I don't think I am very good at telling them so…*
>
> *JK: do you think that is, would you do it more in Danish? Tell funny stories?*
>
> *It is the same. No, not really. I tell stories, but not always funny. (laugh) (Inger; pilot interview)*

For others, humor is a vital part of their classroom behavior:

> *humoristic – that I put a lot of stock in. It is a very important tool. I wouldn't be able to do without it. (Thomas; interview)*

and

> *humoristic – I want a good and positive atmosphere. I am not that good at telling jokes but I want a warm atmosphere. And it is a bit like being positive or confident, then you can also be a little funny to break the ice. (Jacob; interview)*

Linked to concerns about political correctness and cultural sensitivity, Bodil, who believes that the term applies to her sometimes, adds that her use of humor in a foreign language is also tied to her teacher identity and teaching authority[23] when teaching:

> *humoristic – positive. I try to be occasionally – it is definitely easier in Danish then in English. But using humor has to be a balance in order to not lose authority. And it is that balance is where I just feel more confident in Danish compared to English. (Bodil; interview)*

These statements challenge the findings of previous EMI studies that claim that teachers perceive that their ability to use humor and narrative is negatively affected when they teach in their L2 (Tange, 2010; Westbrook & Henriksen, 2011).The lecturers in this study claim that their style is not stymied by their language proficiency. On the contrary, if they use humor when teaching in their L1, they tend to continue to do so in their L2. For the most part, they do not link their use of humor to linguistic proficiency, but to personality.

Like humorous, **effervescent** is a word that the participants either associate with or not. This prompt was included in the card sorting activity as a result of analysis of the conversations with the pilot participants. Therefore, only seven of the ten participants responded to this term. Of the seven, two stated without hesitation that the term applies to them (regardless of the medium), three said sometimes, and two said it did not apply to them.

[23] Here teaching authority as used by Bodil is interpreted as a classroom management skills and not as professional authority as defined in section 4.2.2.

For example, Nicholas does not see himself as an effervescent person and would be surprised to be described as such:

> *effervescent – oh that is a nice word. yeah– that would be somewhere in the middle. I don't, at least I don't think I come off as sort of overflowing, effervescent – I don't think that is a word I would ever use to characterize myself. (Nicholas; interview)*

Meanwhile, Lise finds this characteristic very appealing and believes herself to be effervescent in her teaching and interactions with the students.

> *effervescent - that is something you want to be! I have a hard time saying that I am, but I would love to be. That is when you great enthusiasm for your subject – so I can only say that sometimes I am, it depends on what I am doing. But I know from previous experience that I can capture attention – so I am, hopefully. (Lise; interview)*

The two who believe this term suits them completely are the two full professors with the most classroom experience. Jacob, for example, points out in his response that one's enthusiasm in the classroom is linked to interaction with the students:

> *effervescent – basically positive, but in the sense that in a teaching situation you should be aware not to overdo it. I mean, one could say, there should be interaction. If as a teacher you are too enthusiastic, and the students are passive, it smells wrong! And here again, we are back in the relationship – if I have good contact, I am simply doing better and I am a bit more effervescent (Jacob; interview)*

Still, the medium of instruction does appear to play a role for some of the participants' self-perception of their effervescence in the classroom. The ability to manipulate language, particularly in a foreign language, was found to be both an impediment and a tool when it comes to the classroom. On the one hand, Bodil notes that her proficiency in English compared to Danish make her feel less effervescent, or enthusiastic, when teaching. However, as will be discussed further in section 4.3.3, experience and practice can alleviate her challenges in this area:

> *effervescent: this is a positive word. And I am basically when I teach in Danish and I am also often in English, but not always.*
>
> *JK: why?*
>
> *Yeah, again that is because in a teaching situation like you saw where my English verbs, where I completely forget, makes it hard for me when I am searching for words, then I become inhibited because of that and I can become nervous, or something. So it is when I lack the words. And again, when I have taught more in English, it helps. (Bodil; interview)*

In contrast, Thomas believes that teaching through the medium of English makes him more aware and conscious about what he is talking about:

> *effervescent – I think it applies to both languages, but I am. I think it is positive, of course -it is because it is involving. Maybe I am more conscious about being that (effervescent) in English. Basically, I think the main difference when I am teaching in English than in Danish is that I am more aware the language, or the way I am saying things in English, although I probably not as good. In Danish I mostly just talk – blah, blah, blah. In English I am more aware of the language and the different possibilities you have with the language to involved students or to convey knowledge. (Thomas; interview)*

Improvisational & Spontaneous

The participants all declared the terms **improvisational** and **spontaneous** to be positive qualities for a teacher. In seven of the 10 cases, they gave the same responses for both. Regardless of whether the participants think that these two terms apply to them in the EMI classroom or not, they all agree that this is not medium-specific but rather an aspect of their personalities. This, again, contests the findings of previous EMI research (Tange, 2010; Westbrook & Henriksen, 2011) that identify these two qualities as aspects that are negatively affected when teaching EMI . Those who stated that these two terms do not apply to them clearly note that they think they lack these qualities in general. These qualities are not hindered because of the language of instruction. For example, Jon states*: "I am not a spontaneous person. … Improvisational – no, I don't. I don't really. I don't improvise so …just like spontaneous" (Jon; interview).* Inger also reports lacking this characteristic (although she aspires to it):

> *spontaneous – that is something I would like to be, but I don't think I am. … I don't really think that, I really think that a good teacher, a really good teacher, would be good at improvising and being spontaneous. And I don't think that you can say that about my teaching. (Inger; pilot interview)*

Both Tobias and Otto interpreted improvisation from the standpoint of preparation. Tobias says that he prefers to have a plan for his teaching regardless of the language of instruction, unless necessary:

> *improvisational – no really. I like to plan things. So, I think that doesn't apply to me. I try to make it planned because then you know what*
>
> *JK: so this is not because it is in English?*

No, no. …of course, if you are totally lost…then you can improvise. But generally no. (Tobias; interview)

Otto, on the other hand, can feel fenced in if he has planned his presentation of material in too much detail:

…it works well with that idea of being spontaneous. I don't prepare a manuscript or anything like that. So it is more spontaneous (Otto; pilot interview)

Seven of the 10 participants find improvisation and spontaneity to be a large part of who they are in the classroom and strive to draw on these qualities in their teaching.

I improvise all the time. And that is positive – and this is when you capture what you are doing, what is going on in teaching and pick that theme up and see if you are clear in your explanation, so try something else. (Lise; interview)

Most of what I am doing is improvising. I think it is positive, sometimes I am - it is positive for involving people. (Thomas; interview)

Improvisational – basically positive, it is very similar to spontaneous. It means that you are able to grasp a situation and get something good out of it. I hope it applies to me. (Jacob; interview)

Although the participants agree that these two qualities are part of their personal identity, when probed further, they do note that their English proficiency can occasionally play a role in their ability to be spontaneous and improvisational:

… if a person asks a question in English, especially if it is a bit out of the main agenda, I need to listen a little bit more carefully, that I really got the point and to consider a little bit more if it is worth spending time on. (Jacob; interview)

and

Improvisational – positive – to a limit, of course. If there is a student who asks a question. I can of course improvise – better in Danish, but OK in English. (Bodil; interview)

This element of their responses mirrors results found in previous EMI studies. The informants in Westbrook and Henriksen (2011), Hellekjær (2007), and Tange (2010) all make some reference to limitations on their ability to be speak extemporaneously in as free a manner as they do in their L1.

Negative Terms

Moving onto the terms unanimously rated negative, the participants believe, to a large extent that these terms to do not apply to them when teaching in English. Table 4.3 lists alphabetically the responses of the participants to the prompts that they considered to be negative attributes for a teacher. As previously mentioned, I probed the participants' more deeply during the interviews in regard to their responses to the negative prompts that they claimed applied to them compared to responses to the positive prompts. Regardless, all their responses provide an interesting insight into their cognitions about these prompts in relation to their personal identity, and thus their teacher identity, when teaching in the EMI setting. However, in contrast to the positive terms, the negative prompts elicited many more cognitions related directly to language of instruction. Relating to these prompts that they deem negative appears to be connected to moving outside one's first language.

In contrast to previous EMI studies (Airey, 2011; Tange, 2010; Westbrook & Henriksen, 2011) that relate to some of these terms as reactions by teachers to teaching in an FL, my participants, for the most part, all claim that they do not feel **awkward**, **embarrassed**, or **stupid** in this context. Below I provide examples of the some of the participants' responses.

Table 4.3 Responses to Prompts Deemed Negative by the Participants

(-) PROMPTS	Inger	Otto	Elias	Jon	Nicholas	Thomas	Jacob	Bodil	Lise	Tobias
Awkward	–	–	–	N	N	N	N	N	N	N
Embarrassed	–	–	–	N	N	N	N	N	N	N
Fumbling	Y	N	N	Y	N	Y	S	N	N	S
Inhibited	N	N	N	N	N	Y	N	Y	N	N
Insecure	S	N	N	N	N	Y	N	Y	N	S
Stupid	N	N	N	N	N	N	N	N	N	N

–= prompt not used in the pilot interview card-sorting activity 1
Y= yes, this applies to me when I teach in English
S= this sometimes applies to me when I teach in English
N= no, this does not apply to me when I teach in English

Awkward & Embarrassed

All 10 participants claim that they do not believe the terms **awkward** or **embarrassed** apply to them in the EMI setting. The participants' comments tend to state that their teaching experience (see section 4.3.3) and professional identity, including their perception of being the professional authority in the setting, override any embarrassment that may arise due to, for example, linguistic challenges.

> *embarrassed – no. I don't think so. I may have 7 years ago – but no, I don't think. No – I was also a post-doc in France and so I know the feeling. (Lise; interview)*

And in those situations when a language error is detected, it does not sideline the participants or make them question their teacher identity:

> *I will say that there are some words … when I was younger, I was really shy and embarrassed and this was something that I had a very hard time with. And it comes up every now and then … of course it is clear that when you have stood up in front of a class so many times, also something that has changed, how you hold a lecture, so … episodes can arise when you are a little embarrassed, when you are unsure about something or other, it can happen (Otto; pilot interview)*

and

> *embarrassed – yeah – that could be me. Apparently, I just had a, I made an e-lecture last week where apparently I said, instead of pneumonia , I said PNeunomia. And I think I used that word far too many times at e-lecture. At least I used it far too many times to be bothered to go and correct it. But somebody commented on that she was unable to do anything but look for those mistakes because she found them funny. I just don't – I don't think I care. (Nicholas; interview)*

Apparently, it takes a great deal for these participants to feel embarrassed or awkward in the classroom setting, regardless of medium, and the responses clearly indicate that experience plays a central role here.

Fumbling & Inhibited

When teaching in English, three of the participants believe that the term **fumbling** applies to them, with two stating it sometimes applies. The remaining five stated that it does not apply to them. In comparison, only two believe that the term **inhibited** applies, with the remaining eight claiming that the word does not apply to them in this setting. Similar to the findings in Westbrook & Henriksen (2011), the main catalyst for applying the term inhibited or fumbling

appears to be limits in English vocabulary. For example, Inger clearly recognizes constraints on her language use due to limitations of the breadth of her English vocabulary:

> *… I often feel, when I am teaching that it has to be precise in English, it is when I am searching for words and I have to replace them with weaker words. And this I think, it could of course, it is this that inhibits me. But when one says that one is inhibited generally, it is maybe something else than when one is inhibited in regard to language. But it is that I am not, in regard to vocabulary, I don't have that large a vocabulary so that I can avoid groping for words. (Inger; pilot interview)*

However, she does not believe this compromises her teacher identity or her abilities in teaching. She states quite clearly that the limits of her vocabulary are unavoidable and she accepts this. Likewise, Thomas recognizes the potential for feeling inhibited or fumbling due to a limited vocabulary, but applies compensatory strategies, in this case other words:

> *fumbling – yeah. This is a negative term. And this happens to me regardless to this here, where I stand there and find it difficult to complete my thoughts in the appropriate way and just get on with it. And it happens in English that I just am missing the word – so I search for some other word to compensate. (Thomas; interview)*

As with embarrassed and awkward, in instances when they may feel inhibited or fumbling mainly due to limitations in their L2 vocabulary, the participants tend to move on and continue with their teaching, regardless of any roadblocks.

Insecure and Stupid

All 10 participants responded that they do not feel **stupid** in the EMI setting. There was little discussion about this term. The participants' responded similarly to the term **insecure**. This was considered a negative term that tended to be linked to lack of preparation and nervousness. Of the 10 participants, two said that this term applies to them, two responded with sometimes applies, and the remaining eight said that this term does not apply to them. Two of the participants, Bodil and Tobias, commented on insecurity in relation to language. However, as Bodil notes, she can overcome this insecurity when she is confident in her expertise (domain knowledge): *"If I am unsure of my language use, then I can be insecure. But if I know what I am talking about, then I am fine" (Bodil; interview)*

Positive/Negative terms

According to the participants, the last two prompts in the card sorting activity were considered to be both positive and negative. Table 4.4 lists the responses of the participants to these two prompts.

Table 4.4 Responses to Prompts Deemed Both Positive & Negative by the participants

(+/-) PROMPTS	Inger	Otto	Elias	Jon	Nicholas	Thomas	Jacob	Bodil	Lise	Tobias
Authoritative	N	S	N	N	N	N	S	Y	Y	N
Nervous	Y	N	S	Y	N	S	N	S	S	N

Y= yes, this applies to me when I teach in English
S= this sometimes applies to me when I teach in English
N= no, this does not apply to me when I teach in English

Authoritative & Nervous

The terms **authoritative** and **nervous** were interpreted as referring to both positive and negative qualities by the participants. Considering the word **authoritative** first, the meaning of the word in this activity resulted in reflection on the participants' personal pedagogic style and classroom management tools, regardless of language, with the need to be authoritative as 'situation dependent'. For example:

> *authoritative: I don't think it applies to me most of the time. And there is no difference in Danish or English. ...I don't think it is necessarily negative, but it is not necessarily positive. It is very situation dependent. (Jon; interview)*

and

> *It has a little bit positive but mainly negative, I think, because it is good that you can really make people listen and all that, but if you are too much, then nobody will interact with you or ask you anything. (Tobias; interview)*

Six of the 10 participants consider the term either negative or having elements of both positive and negative value. These participants stated that they do use authority, as power, as a classroom management tool. Three of the remaining participants consider the term both positive and negative, with the remaining participant considering it to be positive.

Regardless of its positive or negative interpretation, the participants believe that being authoritative (e.g., strict and dominating) as a classroom management tool has its limits and is related to interaction in the classroom. Not only does it have its limits, the participants note that in some cases they do not want this to define their identity as a teacher. Both Tobias and Elias shared these thoughts:

> *It has a little bit positive but mainly negative, I think, because it is good that you can really make people listen and all that, but if you are too much, then nobody will interact with you or ask you anything. (Tobias; interview)*

and

> *It could be a kind of support to be authoritative. Also something pedagogic in it – if you demand a lot – you get more out. … You can get some support from it. If I could be more authoritative – it could perhaps eliminate some of the other negative words. I am not that good at it but it isn't really something I am trying to be. Actually, it is the opposite – I don't want to be authoritative. I would rather have a dialogue. I really prefer a supervisory style where you have two people that are solving a problem together instead of one who just says this is how it is. (Elias; pilot interview)*

This reiterates a running theme throughout the participants' reflections, namely that they define their success in the classroom by the amount and quality of student-teacher interaction via other teaching tools.

Like authoritative, the participants consider **nervousness** as a characteristic to be a two-sided coin:

> *nervous: That is something that plays a role when you teach or give a lecture. I don't feel it, well, actually I do feel it, in particular there can be days when I teach when I am not on the top of my game and my, let's call it my improvisational style doesn't suffice, then I can be a little nervous.*
>
> *JK: is it positive or negative?*
>
> *It has two sides. I can't say it if is positive or negative. Of course it is negative to be nervous – but it can also motivate a little, right? But it isn't – it is negative if you are nervous when in teaching situation – then it is negative, because if it doesn't contribute to you performance for the better, it creates a situation where the students focus more on the 'person' than on the 'material'. In that way, it is negative. In a teaching situation – and it also, in one way or another it creates an atmosphere of uncertainty because the students notice that you are not confident – you can't be nervous and confident at the same time. (Thomas; interview)*

For Lise, being a little nervous is a positive quality that she believes improves her performance as a teacher:

> *nervous: you should be a little bit nervous before you gift a lecture or teach. But it should be a constructive nervousness. So it isn't negative for me. It sets me up. Teaching isn't something that just happens. You need to be focused and nervousness is a part of that. So, for me, that little bit of nervousness - I want to deliver the goods. I don't want to do anything bad. So, it isn't negative. (Lise; interview)*

The participants' cognitions about the word nervous were mixed. Two said that the term applied to them, four said that the term sometimes applied to them and four said that it did not apply. Regardless, the participants' reflections noted that nervousness was not related to language use, but rather a 'constructive' nervousness, a type of performance anxiety linked to knowledge and preparation. Elias explains that his nervousness stems from negative student responses and frustrations when they do not understand course content. To avoid this feeling, Elias alters his lesson planning and presentation to provide students with more comprehensible input.

> *It is. It can be a bit exciting – which is a positive aspect. But for me it is a negative word. So this is 'sometimes'. And it really depends on how the first lessons goes. I have thought about this a lot this year because I used some new software that we are using – I wanted the first couple of lessons to go well but I could see that it was hard for the students. So there were some students who began to be very critical and say 'why should we use this dumb software'. So, I would rather start with something that is a little simple, and maybe pay the price that later is gets much harder. (Elias; pilot interview)*

Similarly, Bodil believes that lesson planning and preparation provide her with the tools that help her avoid being nervous when teaching.

> *Yeah, generally, when I know my material and well prepared, then may find myself a little nervous in English – but if I am well prepared then there is no reason to be nervous. (Bodil; interview)*

In summary, the data set shows the participants' thoughts about their personal identity. Individual characteristics and style are elements of this identity, which in turn is linked to overall teacher identity.

4.2.3. Institutional identity

In this section, I address *institutional identity*, the third element of the three interwoven elements of teacher identity shown in Figure 4.1 (see section 4.2). From the data set, it appears that participants link the choice of classroom management tools and strategies and

acting authoritative and domineering in the classroom to their sense of institutional identity. From their responses, it seems that this interpretation of institutional identity is simultaneously hierarchical and cultural. Institutionally sanctioned positions and/or hierarchical roles come with explicit and implicit underlying norms and expectations, both from the universities and the culture, that define the role of university teacher and serve as an element of a more global teacher identity. However, although they acknowledge this element of their teacher identity, the participants in this study claim that they do not want to rely on this form of institutional identity for their teaching.

To begin with, these 10 Danish professors, drawing on the broadly democratic university and cultural norms and expectations, tend to reject the notion that their status and position, i.e., their institutional identity, should play a role in establishing professional authority with their students. However, as described in section 4.2.1.2, professional authority is defined by the participants as the acknowledgement by others of one's expertise and clout in a particular domain, not as institutional identity. Nevertheless, these participants realize that in the classroom context some of their students tend to link their professional authority to their institutional identity. There is a stereotypical portrayal that is repeatedly referred to by the participants in their commentaries. The description of an 'old fashioned' professor includes a distant, unapproachable character who relies solely on his image and position within the university. This image, considered negatively by these Danish academics, puts the professor on a pedestal and limits interaction with students:

> *Yeah, and also like, in the old days, the professor was standing up there with a bow tie and nobody dared to ask and if there is too much of this authority, then I think it is difficult to get people to talk to you. (Tobias; interview)*

In general, the response from the participants to this type of authority, granted based on academic position, appears to be undesirable. *"I think it is a poor excuse if you feel the need to play that card." (Thomas; interview)* Instead, the participants believe that a focus on pedagogy and disciplinary content knowledge works better for them:

> *I don't want to use my authority, because I am a professor – that is a stupid answer. …you use your position, age, power to state 'this is how I want it' …You may have a group of students that you say, it is like that because I say that. …I hate to do that. In between I use it. It is a last option. I prefer the situation that we jointly moved forward, because of this, this, this, - that they make the choice themselves. (Jacob; interview)*

Jacob would like to students to acquire knowledge through more interactive learning methods instead of taking his word for it. The same holds true for Jon. In his teaching, Jon prefers to rely on his professional expertise to get through to the students:

> *Yeah, I think so. I am just trying to imagine some of our students and I am not quite sure it is because of age differences or it is because of other differences that, well, I don't use my authority or I don't use my identity and I never, never, use my professor title to try to say, 'well, now because I am a professor - you do what I tell you.' I try to more use my expertise in saying , this is the way you should do it because…" (Jon; interview)*

Thus, despite the fact that the participants in this study prefer not to rely on any type of institutional identity to develop or maintain any type of authority with their students, the concept remains an element of how they define their teacher identity.

4.2.4. Revisiting the Concept of Teacher Identity

From the data, a global definition of teacher identity emerges. This definition comprises professional identity (made up of professional expertise and professional authority), personal identity, and institutional identity. Both Lise and Jacob note the comprehensive view comprising all the elements of their job. Lise embraces her teacher identity and emphasizes how broad the requirements are for her to remain engaged:

> *…I mean, this is like my whole life is within this job, you could say. I think it is – having a job like this, where you are doing research and teaching, being at a university. I mean, you need to, it has to be some part of your identity because otherwise you wouldn't spend so much time on it. All those additional hours that we actually use in order to get everything done .And to put the enthusiasm into the research and into the teaching. I mean, it has to be some part of your identity. (Lise; interview)*

Likewise, Jacob's remarks highlight the overarching and lasting nature of his teacher identity. Jacob is clearly aware of the various competences he possesses and the role they play in his work.

> *…my identity in this profession encompasses all my personality, all my knowledge, all my competences, including my social competences. Some sort of all type of thing. … So I have a type of authority in this field which is based on my knowledge, my experience and all that, in one some sort of. So there is – it is to some extent linked to my job. Because one could say, now let's say that I am - when I retire, part of that will be lost – this will be maintained. (Jacob; interview)*

In his comment here, Jacob touches upon aspects of all three parts of teacher identity, i.e., his professional identity, personal identity, and institutional identity. He notes that although he may not be state of the art in respect to specific aspects of his, e.g., domain expertise, when he retires, he will continue to maintain his overall teacher identity:

4.3. Teacher Identity and the Multicultural, Multilingual Classroom

In the following sections, I present three themes from the data related to the participants' model of teacher identity, as defined in section 4.2. These three main themes that relate to teaching in the EMI context and the effects of the shift from teaching in one's L1 to teaching in the L2 are: 1) "My Relation to the Code" (section 4.3.1), 2) "I Don't Know What They Know" (section 4.3.2), and 3) "Experience & Growth – The Secret to my Success" (section 4.3.3). Prior to discussing these themes, and their corresponding subthemes, I present the participants' views on didactics and pedagogy, as well as the overall results of card sorting activity 2. Whereas the responses from card sorting activity 1 (see section 4.2.2) focused on specific personality characteristics and their relation to teacher identity and the shift to EMI teaching, the responses from card sorting activity 2 are diverse and are found in all three themes. Therefore, the results from this activity will be presented in support of each appropriate theme. Running throughout all three themes are recurring comments about a focus on pedagogy and didactic skills, e.g., preparation, interaction and engagement. Below I present the participants' global thoughts about what it means to be a 'good teacher' and how they would like to be perceived by their students.

4.3.1. How I would like to be perceived when I am teaching …

As noted above (see section 4.2), in the participants' definition of their teacher identity in the EMI context, comments about expertise were prevalent. While the participants acknowledge the need for domain specific knowledge, they nevertheless tend to link the development of their teacher identity to the development of their general pedagogic knowledge and pedagogic content knowledge through their experience in the classroom and to the growth that has taken place over the course of their careers.

To gain deeper access into the participants' thoughts about perceptions of their teacher identity, I asked the participants to share with me how they wanted to be perceived in the classroom and to describe their personal definition(s) of *a good teacher*. The participants' reflections on this concept resulted in several common responses that repeatedly included terms such as knowledgeable, engaging, organized, interactive, memorable, and enthusiastic. The repetition of these responses showed a common desire to be perceived as a teacher who motivates and stimulates students because of the teacher's own expertise in and passion for the subject matter they teach.

In the previous section, general clarification of professional expertise was presented. Here, however, in this example from Lise, we see that she includes much more than the knowledge of facts and theories in her definition of knowledge:

> *…you of course need to have the expertise. You need to know what you are talking about. You need to be enthusiastic about your topic. The students need to see that this is something you really find interesting. And of course you need to be well structured. I mean you need to think about how to present this is logical manner for the students. And a logical manner can be in many ways, but you need to have an idea about how to present it. And I like, I always think a good teacher has a lot of interaction with the students because this is a good way to feel whether the students come along – are they following my thoughts. (Lise; interview)*

The points Lise touches upon are themes that are repeated across all the participants. In particular, she makes reference to factors that are related to specialized content knowledge (i.e., her domain specific expertise), general didactic knowledge about organizational structure and student/teacher interaction (i.e., her pedagogic knowledge expertise), and her enthusiasm and ability to get her subject specific interests across to the students (i.e., her pedagogical content knowledge expertise).

Likewise, Tobias explicitly comments on the need for a good teacher to possess these same qualities. He also mentions the need to know the content of his course (i.e., his domain specific expertise) and have the ability to present it well. His goal, however, goes beyond the classroom. For Tobias, teaching success also includes student reflection after class:

> *Well, it is a person who, of course, knows what he or she is talking about and can tell, give the students an overview and make them really sit and listen and maybe ask questions afterward. (Tobias; interview)*

Over the course of the interviews, all 10 participants refer to stimulating students to think beyond the lecture as a key goal of the good teacher. For example, Inger states:

> *I think a good teacher would be one that kind of forces or stimulates students to think in a different way than they did. Or maybe just sort of try to see that the concepts that we are trying to bring into the, into play, are concepts that they already are familiar with. And just remind them, what are the implications of these. … I would say, a good teacher would be one that hopefully stimulates students to actually think about what they are doing. (Inger; pilot interview)*

However, while Inger underscores the art of stimulating students to think about what they doing, she does not mention the teacher's expertise or knowledge. Both Jon and Otto highlight 'engagement' as important. Thomas even goes to the extent to say that expertise, i.e., content knowledge, is not necessarily the key. Rather, he also underscores the need to be someone who can inspire and get students to think.

> *It is someone who can get students thinking. Who can inspire. It doesn't have to be someone who is an expert in what he is teaching – but can he get people to think about, to be curious and take initiative to read something after, that is what is central. (Thomas; interview)*

The possession of domain specific content knowledge and the ability to present content well thus appear to be noteworthy elements in the framework of one's teacher identity. Otto refers to this as his "mission" - that he has something to offer when teaching.

Interestingly, none of the 10 participants make any reference to the medium of instruction or shared proficiency in language in reference to being a 'good teacher.' There are essentially no comments related to the development of a linguistic literacy of their domain. The language of their fields appears to be implicit in their understanding of disciplinary content knowledge expertise. This omission of explicit commentary about language supports Airey's (2009) supposition that bilingual discipline literacy includes a broad range of modes, including the ability to read, investigate, write, and speak about complex knowledge related to a particular discipline in two languages. In section 4.3.2, I address the participants' reflections on this notable absence of concern regarding language of instruction through the participants' general comments and responses to card sorting activity 2.

Card Sorting Activity #2

Prior to discussing the overarching themes, I present the overall data from card sorting activity 2. This activity focused on thoughts about pedagogical reflections and their relation to teacher identity. In card sorting activity 2, the participants were asked to consider prompts related to pedagogy and teaching strategies and to describe any compensatory strategies they

may have developed in their EMI classes, again, in relation to maintaining or developing their teacher identity (Kling & Stæhr, 2011). The prompts for this activity were drawn from actions and strategies observed in the lessons the participants taught prior to the; interview, from the target language use list of teaching tasks developed at CIP for teaching in EMI settings (Kling & Stæhr, 2011), as well as previous research (Doiz, Lasagabaster, & Sierra, 2012; Jakobsen, 2010; Klaassen, 2001; Tange, 2010; Westbrook & Henriksen, 2011).

Card sorting activity 2 required the participants to reflect on their instructional practices and to consider any *differences* in these practices when teaching EMI classes compared to Danish-medium classes. The participants were also to express if these *EMI practices* changed their own definition of their teacher identity, compared to how they consider themselves in a Danish medium instruction setting. Whereas in card sorting activity 1, where participants were asked to comment on all 16 prompts, in card sorting activity 2, the participants were asked to select only those didactic activities/strategies that they believe are relevant to differences they have encountered in teaching EMI classes. Table 4.5 lists the 14 prompts for the strategies the participants could choose from and the individual participants' selections related to the EMI context.

Table 4.5 Card Sorting Activity 2 Prompts

Participants	Inger	Otto	Elias	Jon	Nicholas	Thomas	Jacob	Bodil	Lise	Tobias	
Prompts											Total
Accommodate to the students' language proficiency	X	X	X	–	X	–	X	X	X	–	7
Give Danish cultural references	X	X	X	–	–	–	X	X	X	X	7
Relate lecture to students' background	X	–	X	–	X	X	X	X	–	X	7
Stimulate students to ask questions?	–	–	X	X	X	–	X	X	X	X	7
Use appropriate tempo	X	X	X	–	–	X	X	–	X	–	6
Engage in interaction with students	X	–	–	–	–	–	X	X	X	X	5
Explain new terminology	–	X	–	X	–	–	X	–	–	X	4
Guide students' self-study	–	X	–	X	–	–	–	X	–	–	3
Emphasize important points	–	–	–	–	–	–	–	–	–	–	0
Gain contact with the students	–	–	–	–	–	–	–	–	–	–	0
Give an overview of a lecture and teaching goal	–	–	–	–	–	–	–	–	–	–	0
Give concrete examples	–	–	–	–	–	–	–	–	–	–	0
Give detailed instructions	–	–	–	–	–	–	–	–	–	–	0
Summarize sections of a lecture	–	–	–	–	–	–	–	–	–	–	0

In the table, an 'X' marks where a participant chose to discuss a specific prompt. For the purpose of this report, the prompts have been translated into English. However the participants viewed the words in Danish.

Of the 14 prompts presented to the participants in card sorting activity 2, six strategies were not commented on by any of the participants as areas of pedagogical practices that they

believe were affected by the switch to teaching in an EMI setting. These six strategies are: 1) **give detailed instructions**; 2) **gain contact with students**; 3) **give concrete examples**; 4) **give an overview of a lecture and teaching goal**; 5) **emphasize important points**; and 6) **summarize sections of a lecture**. These aspects of teaching are considered by the participants to be general 'good' didactic procedures that they include in their teaching regardless of medium and that they include in their knowledge base from which they define their teacher identity.

The eight remaining prompts brought about a distributed blend of responses related to both language (medium of instruction) and the element of cultural and educational diversity raised by Jacob. These themes are addressed in more detail below (see section 4.3.3). Throughout the next three sections are examples of the participants' responses to these eight prompts. In cases of change in pedagogic strategy in the EMI context in relation to a prompt, the participants also describe the compensatory strategies they draw in order to maintain what they claim to be their 'normal' pedagogic practice.

4.3.2. My Relation to the Code: "Not a Language Issue"

The first general theme that resulted from the participants' reflections is related to the actual language of instruction. This section includes two sub-themes: 1) Of course there are challenges, but "I just get on with it," and 2) English is the language of science.

4.3.2.1. Of course there are challenges, but "I just get on with it"

The reflections related specifically to the language of instruction and teacher identity for all 10 participants were quite similar. In general, they all report that at the current stage of their careers that their definition of their teacher identity is not affected when they teach in their

L2, i.e., English compared to when they teach in their L1, i.e., Danish.[24] However, the use of English for teaching is not without its challenges. That said, although these challenges are acknowledged, they do not appear to be detrimental to the participants' self-perceptions of their teacher identity in the EMI classroom compared to the Danish medium classroom. The participants claim, for example, to simply ignore the identified challenges,

> *… because I have always been completely ignorant of my own limits" (Nicholas; interview).*

and push ahead with their teaching using strategies to avoid the issue:

> *…. but generally the language, if something goes wrong and you can't remember, then you try with a little humor and you just get on with it. (Tobias; interview)*

The participants' teacher identity, with a focus on the dissemination of domain specific content (professional expertise), plays a more important role in their considerations than any weaknesses in their own oral English proficiency. Lise explains her thoughts about making mistakes in English when she teaches:

> *Of course I have had experiences where I am trying to say something and then, you know, using a phrase and thinking, did I use that correctly. I don't think I will try to correct it. I might try to use the same phrase or word later on and then try to use it the right or correct way. But of course, I make mistakes. But when I am standing there teaching, I don't think about that – to be honest. I am actually thinking more about what am I teaching. … I am well aware that I do make mistakes. But it is just I think, no, for the overall picture, the message is the important part. (Lise; interview)*

Thus, the delivery of information is at the forefront of Lise's concerns. She is a teacher who is concerned with dealing with disciplinary content knowledge first, regardless of the medium and until someone comments on the weaknesses of her language skills, she is not anxious about her L2 proficiency: "*I have never experienced anyone who has corrected or complained or anything, so … no it doesn't bother me.*" *(Lise; interview)*

[24] Interestingly, the participants do not mention proficiency in English as an element of their professional expertise.

Nicholas and Bodil reiterate this in their own reflections on challenges and weaknesses in the L2.

> *No – well, if I, OK, maybe I have to sort of stand there and say, what is the word I am looking for, but I don't think that is usually a problem. And also, because, I really know where I am starting and where I have to go. And it is just sometimes that the path takes us somewhere else, but I know that I have to end up there somewhere. (Nicholas; interview)*

and

> *Ooh, my grammar is so awful that it is embarrassing, and I just can't do anything about it. Sometimes in my head I am saying, 'is, are? But it isn't a big problem. When this happens and I get stuck, I can just get on with it. I just think as long as the domain specific terms are OK, I am fine. (Bodil; interview)*

If the domain specific knowledge is in place and can be disseminated to the students (pedagogic knowledge and PCK), the mistakes made in the L2 are not a concern. When mistakes happen, they just get on with it.

Card Sorting Activity 2

The four prompts that generated the most language related responses in card sorting activity 2 (see Table 4.5) are 1) **explain new terminology**;2) **use appropriate tempo**; 3) **accommodate to students' language proficiency** and 4) **stimulate students to ask questions**. While linked to good general pedagogy concerns, the participants commented on both the challenges and the advantages of using English in the classroom. Again, for the most part, the participants who chose these four prompts claim that these are elements that they consider when teaching regardless of the medium of instruction; for example,

> *But I think that most of these are for general teaching like this one, explain new terminology … I have just continued, I think. Of course, I think that is basically… who are these people sitting there? We can't do very abstract things if we don't have the basic terminology. (Tobias; interview)*

As previously mentioned, English as the medium of instruction can bring about challenges for those who are searching for words or using creative structures in their foreign language (e.g., Tange, 2010; Thøgersen & Airey, 2011; Westbrook & Henriksen, 2011). For instance, this appears to be the case for a skill, or the PCK, of explaining new terminology. As expected, and noted in much of the EMI literature focused on teachers' challenges in English, there can difficulties clarifying domain specific words. To overcome these challenges,

compensatory strategies such as notes in the participants' L1 or an extensive use of visual aids can provide support. For example, Otto explains:

> *Yes …that is one of the areas I have particular problems with – problems with terminology (explaining new terminology) in XX. So, remembering the names of the parts of a XX in English (…) all of these different XX parts, I write them up on my slides to help myself! So this I would not have done in Danish, of course. And if I have to describe an XX, there are terms, …yeah, it can be a challenge. … Especially XX terminology can be difficult to remember. (Otto; pilot interview)*

However, of all the participants, Otto was the only one who described this aspect as a *challenge*. For the others, the use of English as the language of science (see section 4.3.2) provides a more global domain specific vocabulary that appears to be less challenging than if the teaching was in Danish.

> *New terminology- to some extent easier in English because it is the scientific terminology is in English. (Jacob; interview)*

and

> *I guess, to explain new terminology. That could be relatively challenging. Well, actually, I think that, um, often explaining new terminology might be easier in English because the words are often derived from English literature and they make sense in English, whereas they may not always make as much sense in Danish. So it could be actually a little more challenging to explain it in Danish than in English. (Jon; interview)*

This link between the act of teaching and the language used for instruction is repeated again in relation to the **tempo** of speech when teaching. The slowing of speech rate when switching from one language to another for the same content material has been a recent area of focus (Thøgersen & Airey, 2011). In this activity, Inger describes the challenge of teaching through English and the resulting slowing of speech rate due to, in particular her lack of nuance and search for vocabulary: Still, although she is not concerned with the change in rate and her delivery of material, she is annoyed by her lack of fluency.

> *Not in English, no. I can't. It slows me down. Because I this fumbling thing - and because of course I cannot speak as fast in English as I can in Danish.*
>
> *JK: is this something you think about?*
>
> *Yes, sometimes, yes.*
>
> *JK: do you have concerns about covering the material?*

> *No. I don't because I think usually anyway, when you plan teaching, you usually tend to cover too much. So I think it doesn't matter. So, I am not afraid of not covering everything because I think the most important thing is that you have your main points. So usually there are too many point to cover in a lecture anyway. It doesn't matter. But it is irritating because it isn't that fluent and it becomes slower than I usually would speak. Maybe it is OK for the students? (Inger; pilot interview)*

Interestingly, other participants who commented on this in regard to their teaching all note that they purposely monitor their speech rate and try to slow down when teaching in English. They claim to be fully conscious of their focus and do this to make themselves more comprehensible. *"I am very much aware of that. Earlier I have been told that I speak too quickly. And I definitely do that in English. I am very aware of that" (Thomas; interview).* In most cases, the participants express concern that if they maintained their 'normal' tempo, the students might not be able to follow everything in their FL both because of their listening comprehension skills, but also because of the nature of the English the participants produce:

> *tempo – yes indeed. I have a tendency to speak too fast. And I have to be more careful in English simply because, one thing is that my English way of building sentences is not as good as it is in Danish. So there is a higher risk that my, if I explaining something quickly, the message is simply not transmitted because I am speaking too fast with too little attention to really give it the right wording and nuance. That is just easier in Danish because then I can listen to my own words at the same time. I need to be a bit more careful here. This has changed. Anyway, I also need it in Danish, to make sure I don't speak too fast. …*
> *Yes, I have to slow myself down in both Danish and English. But the consequences are greater in English simply because my way of speaking English, and at the same time, their perceptions, because obviously if I am speaking too fast blalalalal – they don't get it. (Jacob; interview)*

Thus, according to the participants, the language proficiency of both the lecturer and the students plays a role in use of a slower speech rate in the EMI setting. Monitoring tempo and production becomes an element of pedagogic content knowledge PCK and thus part of their professional identity.

The next prompt, **accommodating to the students' language proficiency**, apparently requires little reflection time for lecturers teaching to students who share their L1. However, the picture changes when the medium of instruction is everyone's L2. The prompt generated comments from seven of the 10 participants. Those who responded delineate their role as content instructors from that of language instructors in their reflections. This result mirrors Airey's (2013) findings from his discussion with lecturers in Sweden who do not see

themselves as language teachers. For example, Nicholas is very direct about student responsibility when it comes to linguistic proficiency and accommodation:

> *Yeah, but, I will say, if they don't understand, I will try to rephrase it. But on the other hand, the course is taught in English. So, if they don't understand English … at least I feel that if you basically, if you cheated on you TOEFL it is not my problem ! (Nicholas; interview)*

However, he recognizes that differences in English will result in changes to his teaching performance.

> *…the problem for instance with some of the Bangladeshi students is that they are taught in English, it is just that their English is very different from Northern European English, to the extent where I don't' think he understands a single word I say, and I am positive I don't understand a single word he says. But, so, I would guess, if I had a crowd full of people like that, ehm, I would use more written materials. (Nicholas; interview)*

There is an assumption that concerns about language proficiency are the responsibility of others prior to the students getting into classes. Thus, Bodil does not see the need to change her teaching for students with limited proficiency. She states, *"Accommodate students' language needs: that we don't do – I just assume their English is good enough" (Bodil; interview).*However, some of the lecturers do claim to consider the students skills. For example, Jacob explains that although he is not focused on making specific accommodations for the students, he promotes discussion among the students in class to compensate for weaknesses in vocabulary (both the students' and his own). He says:

> *Students' language – I don't care about it. I try to do the other way around. If there is something you don't understand –ask. Ask your neighbor. And sometimes when I miss a word, I also ask 'what is this called in English? I may ask in Danish and get the Danes to help me, or whatever. (Jacob; interview)*

In general, like Nicholas and Jacob, the participants note that although they make accommodations for the students; they do not consider language teaching to be part of their professional expertise.

Three of the seven main study participants believe that they use rephrasing as a means of accommodation for the students with different reflections on this didactic tool. In her reflections, Lise notes that the need for rephrasing tends to occur more in relation to the proficiency of non-Danish speaking students (i.e., the international students). In response to the prompt, **'*accommodate for student language proficiency*'** she says:

It is not so bad this year, but other times I have had students with more primitive vocabularies. And then you need fit the explanations. …you just have to adjust and explain it in a different way. … Yeah, I have to do that. And it is mostly with the foreign students, I would say. I don't think the others …(Lise; interview)

As a teaching strategy, Nicholas uses summation as a means of confirming his own comprehension of the students' input as well as clarification for the other students.

…there is one thing I do, especially in this multicultural setting. There could be an African student, the students have very different accents. And I am used to the different accents. So I very often sum up what the students say because I know that the other students, I suppose that the other students would not understand what was said. (Nicholas; interview)

Inger goes on, however, to note that this is a technique she uses in her teaching regardless of the language of instruction:

But it could also be done in a Danish class when you have the tables arranged – and some people are not that articulate – so I would also try to repeat the conclusions. I but I think I actually have developed this more or less as a style because of language. Yes, I have developed this style in this dialogue where I try to sum up what the students have said. (Inger; interview)

The fourth prompt that the participants linked to the change of medium is ***'stimulate students to ask questions.'*** All seven of those who chose this card state that this is a fundamental element of their teaching and that they continue to use the same strategies regardless of language. For Nicholas, this is central to his teaching:

But one thing that we try is to basically, to really try to get the students to ask questions. So that is an important thing, because it is, there is no point in sitting together in the same room if you do not communicate. That is the whole point of bringing them together because if they just had to sit and listen to me talk, well then, that is the computer.

JK: so this doesn't, if I say, English compared to Danish?

No, I don't think it matters to me. (Nicholas; interview)

However, the participants comment that the students' linguistic proficiency makes this element of teaching more challenging. Otto mentions that the EMI setting does require a little more focus in this area: *"yeah, that happens a little more now. This has a lot to do with that the students often have difficulties with the English, that's obvious" (Otto; pilot interview)*. Like Otto, Jon is aware of the students' struggles with the language, but finds it difficult to change his teaching style to stimulate the students beyond his standard methods.

> *stimulate students to ask questions - it is usually very difficult and especially difficult to get Danish students to ask questions when the class is in English compared to when they are in Danish and … I don't think I spend any energy on trying to stimulate them. …it is not something that I have been doing – working on trying to improve my teaching in that aspect. (Jon; interview)*

Thomas notes specifically the link to language challenges and delivery of content, highlighting the fact that although it is easier to dig oneself out of a hole in one's L1, lack of proficiency in the L2 is only a stumbling block. When he is confronted by a complicated student question that he may struggle to answer because of a lapse in domain knowledge, he may find himself feeling dumb. The limitations of his L2 proficiency may then compound this problem, but they are not the focus of his energy:

> *I think there is a little difference in relation to the two languages. If I have a situation where I cannot express what I want to, and this is in relation to a student's question, when I will try to describe something that is very complicated that I haven't tried to do before, because it is a far out question. Then, I can feel dumb. But that is in relation to the idea that I have difficulties explaining what I want to. And this is something I experience – in Danish can I just talk my way out of it, right. Words can be used where I can differentiate…. (Thomas; interview)*

However, he goes on to say that his limitations in English make him more conscious of his word choice and how he expresses his content knowledge. Instead of 'talking his way out of it,' Thomas uses the challenges of the L2 in the EMI context to enhance his teaching and maintain his teacher identity. As he mentioned above (section 4.2.2.1, effervescent), Thomas believes that when using English as the medium of instruction, he is more conscious and aware of the words he uses. He believes that having to think more about how he expresses himself enhances his teaching.

4.3.2.2. English: the Language of Science and Academia

In response to the card sorting activity prompt regarding the teaching of terminology mentioned above, the notion of English being the language of science and a natural medium for the courses the participants teach was repeatedly mentioned. The use of English as a working tool appears to stem from the participants' student days and remains part of their lives as scientists.

> *But when you think about language, I mean, since I was a PhD student, we have had to go and give seminars and research presentations so it is actually much easier for me*

> *talk about science in English. When I am sitting at a dinner party and have to talk about a lot of other things, then my problems come up, because it is not part of my professional life. … Yeah. It is part of my professional identity. Absolutely (Lise; interview)*

Despite challenges that might arise due to any weaknesses of proficiency in English as a foreign language, some of the respondents claim to feel a stronger teacher identity through the medium of English than the medium of Danish. For example, although Elias recognized challenges in using English, he claims a stronger comfort zone due to the use of English in his field:

> I think it is stronger in English, actually …because it is going on in English – also in my discipline. … y*eah, in a field like mine, it is almost always in English. When we write, it is always in English. When we write articles, it is almost odd to write in Danish. All the domain specific is in English – the stuff can be harder in English, but otherwise …*(Elias; pilot interview)

The use of English as the language of science appears to be second nature for these academics.

> *No, I think that it is completely natural to use English as the university level because it has been the language of science, language of publication for years. In that regard, it is completely natural … it is all in English… (Otto; pilot interview)*

Jacob states that he finds it difficult to separate his teacher identity from the use of the English language, regardless of the challenges:

> *…the fact that English is <u>the</u> (speaker's emphasis) scientific language which one could, I think most Danes, including me, be trapped a little bit with the lack of vocabulary. To some extent, it can be easier to have this professional attitude when speaking English because we present seminars in English. We hardly present a real scientific seminar in Danish because there are always some foreigners listening, so this is normally in English. So it is hard to compare. (Jacob; interview)*

Although Danish is used for teaching at the undergraduate level, the opinion of the participants for developing English as their working language returns to the focus on professional expertise and disciplinary content knowledge. For Jon, it is not a question of L1 literacy or L2 literacy, but of the domain specific knowledge to get the job done. In his opinion, the students need to learn their discipline regardless of the language.

> *It has been used as an argument, many times, that they as a professional education, therefore they should be able to speak in Danish. However, my counter-argument to that would be that they don't learn how to speak Danish or English here. Or they don't speak Danish or English here. They speak XX (discipline) here. (Jon; interview)*

Jon makes it clear that his teacher identity rests in the dissemination of information related to his discipline. The medium or language in which that material is disseminated is apparently irrelevant.

4.3.3. I Don't Know What They Know: Different Frames of Reference

> *I don't really think that language plays that big a role. For me it is more about culture; communication and culture. (Elias; pilot interview)*

For the most part, the participants state that their general approach to 'good' pedagogy has not changed because of the language of instruction, but rather because of the more global differences of the EMI classroom, namely the more heterogeneous nature of the study body. For example, prior to selecting cards for this activity, Jacob commented, *"I could at least start by saying, that it is not a question of language, but of culture and background" (Jacob; interview).* Beyond the issue of differences in L1 of the parties involved in the EMI context, the participants repeatedly noted the challenges to their PCK that they perceive due to differences in general frames of reference for both the educational culture and the actual subject matter, domain knowledge.

4.3.3.1. Culture and Disciplinary Diversity

> *… that has to do with the issue that when we switch from Danish to English, we also not just a list of other countries and cultures as well, but also the foci that they come with are different. …It doesn't have that much to do with the language, but it has to do with the fact that it is a much broader group of students who have very different backgrounds. (Thomas; interview)*

For the remaining six prompts in card sorting activity 2, all ten participants again generally believe that they engage their students in the content the same way in their EMI classes as they do in their Danish classes. Nevertheless, in relation to these prompts, some of the participants believe that they purposely alter their teaching practice to include the broader, more diverse audience they encounter in their courses. The heterogeneous nature of the EMI population due to differing cultural and disciplinary backgrounds – both societal and educational – plays a decisive role for these lecturers in how they teach. This then puts demands on the lecturers in relation to their multicultural knowledge.

To begin with, five of the 10 participants reflected on the concept of **engaging in interaction with the students**. Of these five, three people (Bodil, Tobias and Jacob) claim that in this regard, it is business as usual: *"and interact with the students and that is something we always try to do, no matter what" (Tobias; interview).* Nevertheless, the differences cause a couple of the participants to reconsider how they interact with them in the classroom. For example, Lise explains in her reflection that she draws on her local students to engage the international students in her classes:

> *...what I mean by that, when we have the lecture and the case discussions, they are not used to being able to ask questions. And they are not used to being allowed to come up during the breaks and ask questions. And I think the only way to let them feel that they can do it, is to approach them in a friendly way (laugh) to show them that this is done and they can see that the Danish students are doing that. So it isn't something you can stand there and teach – of course you can say, 'Please come and ask' – but they need to see it exemplified by other students, I think. (Lise; interview)*

Thus the challenge of opening up a dialogue in the classroom arises, not only while interacting with students, but also from the very reason for having interaction, to gain insight into the students' comprehension.

> *Yeah, of course the dialogue to understand the questions. But also because their backgrounds are so different and you don't always know what they know. And many of them have a lot of practical experience. I think it is very important for this dialogue. It is very boring to be in a class and the teacher is teaching things that you know very well. Especially in that context. In that sense, in a Danish class, if I knew everybody just came from college and were at the same level, I think I wouldn't bother so much. Then the dialogue wouldn't be that important. It would still be important, but not that important.(Inger; pilot interview)*

The fact that there is such diversity in the EMI classroom leads to what Inger claims to be even more reason to promote interaction between the teacher and the students. In this respect, she draws on elements of her pedagogical expertise, i.e., her pedagogic knowledge, an element of her professional identity, in an attempt to remedy the situation.

The same type of reaction resulted from the prompts for **relate to students' background**. Of the six who reflected on this prompt, three of the participants again mention that the language of instruction does not play a strong role in their considerations of how to reach the students. They describe a different challenge:, how to plan content instruction when you do not know the subject matter knowledge or disciplinary training of your students. This is a challenge that is new for the participants, compared to when they taught local students in Danish who all

came with the same curricular experience. This is evident in Inger and Jacob's responses to this prompt:

> *I think this is independent of language …it is a problem, because you never know how much the students know beforehand" (Inger; pilot interview).*

and

> *So, to relate the information to the students' background, that is basically a challenge. Not per se because it is in English, but because of the different backgrounds and levels and whatever they know when they start here in my class. …Yeah, and since it is so diverse one can say, at least with solely Danish students, or if you have had one the year before who came from the educational background or whatever, but here it is always a new situation. This year we have from Moldova, Romania, I have no idea, they have actually filled out a form before we started the course, where I have asked them to describe their background in various subjects. But still how can you really know? (Jacob, interview)*

The fact that the students in these EMI classes come from not only a variety of educational cultures and languages, but a broad variety of academic disciplines causes the lecturers to reconsider how they can teach their content while simultaneously relating the material to the students' background.

> *Relate content to students' background – and this is important, because when we teach at the graduate level in English, the students come with very different backgrounds. So that has definitely been affected. (Bodil; interview)*

In general, the participants claim that although these broad differences in the backgrounds of the students cause pedagogic challenges for the EMI lecturer, they do not affect their teacher identity.

The third prompt that the participants identify in regard to frames of reference is that of **giving Danish cultural references** in their teaching. All seven comments to this pedagogic tool note the need to internationalize examples and references for the EMI population. Some of the participants explain that although they may use the occasional reference to Danish examples, it is necessary to expand their repertoire to address a larger audience. For example, Bodil believes that to engage the students, she needs to go beyond Denmark when giving examples:

> *Give Danish cultural references- earlier, I used to always give Danish examples. I think I still do that, but there is more globalization. Because when it is in English, you are sitting with 'the whole world' and it can seem a little like navel gazing. (Bodil; interview)*

Given the subject matter of teaching, Danish references appear to play no role for some. Yet, for those who have shifted away from Danish references in their teaching, the change was natural. Here, Jacob mirrors Bodil's sentiments: *"Give Danish cultural references: This doesn't apply to the international class – why give Danish references?" (Jacob; interview).*Surprisingly, taking away this tool in the classroom does not appear to cause the participants pause or move them to reflect on what this means to be a lecturer in Denmark. This challenges Preisler's (2008) hypothesis that local teachers may find themselves in a *state of reduced personality* (Harder, 1980) when their traditional teaching tools are taken from them. Although previously considered a vital element for a Danish class comprised of Danish speaking students, the use of these references does not appear to be something that the lecturers miss in the EMI classroom.

In direct contrast to moving away from Danish references in the classroom, three of the respondents reflected on the prompt **guide students' self-study**. This aspect of teaching is strongly embedded in the Danish educational system. The participants note that those students with experience in the Danish higher educational system understand the educational culture and expectations of the courses. Those from outside may struggle with the system. In this regard, the participants see challenges in their role as teachers when students come with different backgrounds.

> *Eh, with regard to guide students' for self-study, I think that that's probably the most challenging … if it is students that have been studying in Denmark for many years, they know what it means to do self-study. And I know what they know about doing self-study. Whereas, foreigners, either those that been here for relatively shortly, those that just come in for the course, I know I have to put more effort into, to guide them, what does it mean do self-study. When I tell you to read these chapters and consider these, try to reflect on these terms or whatever. They would have completely different views on how to deal with that task. (Jon; interview)*

The participants identify with the Danish educational system and expect the students to also. This is part of their teacher identity. Bodil notes that her teacher identity has not changed with the change of population*:*

> *Guide the students' self-study – that hasn't changed. We did talk about if we should change that because we do get students from so many backgrounds who are not used to doing projects and groupwork. We have decided to say, 'this is how we teach'." (Bodil; interview)*

With this statement, Bodil makes it clear that she and her colleagues make a conscious decision to maintain their teaching practices and approaches, regardless of the student

backgrounds. While recognizing the students limitations, Bodil continues to approach her teaching responsibilities in much the same way as she does when she teaches in Danish.

Multilingual, Multicultural, Multidisciplinary

Beyond the reflections based on card sorting activity 2, references to the multilingual, multicultural, multidisciplinary elements of the EMI classroom arose in the interviews. In this section I present the participants reflections on these elements in relation to their self-declared teacher identity. The data shows references to the challenges of a lack of a shared frame of reference can create new challenges and frustrations for the participants in regard to elements of their professional expertise, i.e., pedagogic knowledge and pedagogic content knowledge.

For example, in describing the personal identity traits of the participants in card sorting activity 1, the notion of being humorous in the classroom arose. Regardless of one's personality, the EMI student population, which by default typically includes a heterogeneous audience,[25] does add an additional challenge in the classroom. Although Jacob believes that using humor adds to a positive atmosphere in his class, he goes on to describe the challenge of its inclusion in his teaching and the changes he has had to make. When asked if he feels that there is a difference in using humor when teaching in English compared to teaching in Danish, he said:

> *No, but now-a-days you have to be a bit more careful about cultural jokes … that counts also for our coffee roundtable. And in this class, we have different cultures – but also the type of black humor – and with international classes, you have to be a bit more concerned. Well, it could be anything – don't make jokes about Muslims, Jews, homosexuals. We know the list and it is basically fine. We shouldn't push on the strongest emotions but find a common sense of humor.*

[25]If all the students present are Danish speakers, some lecturers may choose to teach in Danish regardless of the fact that these are EMI courses. However, if a non-Danish arrives late, the lecturers and students accommodate immediately. Nicholas described such an occurrence: "*Yeah, I have done it (ed. switching from Danish to English)- I have been teaching where we started out in Danish and then 20 minutes into the lecture that Chilean guy showed up and I basically switched to English, basically mid-sentence – then it is in English. And the rest of them were just looking around – oh yeah, there he is." (Nicholas ; interview)*

JK: if you are in a class with a DK group, can you let your guard down a little or do you need to be as politically correct?

I would think so. Because of the shared culture, but also because you can use the exact wording. We can use the word 'we' that assumes someone who grew up in the culture, and that include immigrants. You can some assumed shared knowledge. But with an international team, what is common knowledge? Hard to say, obviously easier in Danish then in English. (Jacob; interview)

Jacob makes reference to the heterogeneous nature of the student population and finds himself curbing his enthusiasm in the classroom when using humor. This does not alter his teacher identity but the tools he uses to do his job.

Another recurring reflection in relation to a lack of shared frames of reference is the place an authoritative teacher has in the Danish classroom, or among Danish students, from both a cultural angle and from experience in the interactive student centered classroom. The participants tend to mention typical national stereotypes by country or region that they consider when addressing their students. Asserting top down authority, as mentioned in card sorting activity 1, is a questionable role. Lise's teacher identity includes an element of being authoritative:

Authoritative, I am. Sometimes you have to be. From my perspective it is a positive term. It can be negative; you know that way that it is used in southern Europe or Germany, where you have a professor who won't allow questions from the students and speaks down to them, that is not what I mean. But in relation to courses, when I run a course and I am responsible for the content, then I need to say, 'it is like this and this – this is what I expect of you' – and they need to do that, of course. (Lise; interview)

Likewise, Bodil has found a balance in her role and her teacher identity. Although she must accommodate a broad variety of cultural backgrounds in her teaching, she is content with her balance.

Authoritative, that is both good and bad because if you are too authoritative you can scare the students off. But you need to have enough authority to make sure the students listen. I think my role is fine. I can see that before, for example, the Eastern European students used to have a hard time figuring me out because I wasn't that authoritative. But it has balanced out. It is the same in both languages. I think I have an authority – in both languages. It could be that the students, especially those who are really good in English, may not think so, but I believe I do. (Bodil; interview)

It is the balance that can be difficult to achieve, given one's own cultural background and individual teacher identity.

This desire to use didactic tools to establish authority can be rejected by the students depending on the context, as Thomas found out. Thomas described an experience he had when teaching an EMI course in Denmark after years of teaching abroad that resulted in hostility on the part of his students. In his interview, Thomas made it quite clear that he does not favor using his institutional identity in his teaching, noting that it "*doesn't' work for me*." However, he did recall that when he returned from abroad, he continued teaching in what could be described a much more teacher fronted fashion than is typical in the Danish university context. His lecturing style and lack of inclusion of the students was met by frustration by the students. Thomas explained:

> *I was talking and talking and talking, and suddenly one of the students, he took his book and threw it down and said, 'I don't want to listen to this!- and he left. And it was completely clear to me that the other role that played in the Danish context wasn't accepted. I had challenged him. And I didn't know what I was doing. But it is just that way the one reacts to that. So it depends a lot on how you are perceived. There is no doubt that in (country X), a more authoritative style is expected. (Thomas; interview)*

In connection to the hierarchical element to one's institutional identity, it is clear to the participants that individual cultural definitions and perceptions of the role of a teacher at a university differ greatly among the players in the EMI context. Something that could be considered insignificant in the Danish context, such as the formality of a teacher's clothing, can result in differences of perception and acceptance regarding institutional identity. Nicholas, for example, explained his thoughts of differences in cultural perceptions of a university teacher:

> *Yeah, I don't think it is a language thing, anyway. I think the students from very different cultural backgrounds see me differently. But, on the other hand, they are, maybe they just have to come – sometimes it seems like they just have to convince themselves that it is actually a teacher. Because the person standing there is not wearing a suit and tie. But I think that is sort of a general thing for anyone who comes from Bangladesh or Abu Dhabi, for that matter, or any other place where, where, I guess the universities are a bit more hierarchical. … Yeah, but there the professor or the general university teacher would be seen as like a god. (Nicholas; interview)*

Irrespective of the views of the students, the participants repeatedly emphasized that although they have to rethink how to teach their content, they have not reconstructed their teacher identity. Thomas sums this up:

> *No – I am pretty much myself, I think. I am not trying to present some kind of an attitude – when I go into the classroom, I am still just Thomas, right. But I have become more and more aware of which teaching tools I can use. (Thomas, interview)*

Nicholas continues to avoid a suit and tie, relying more on his professional expertise and focusing on interaction. Thomas continues to be himself, using his humor and wit to involve the students. But they have both developed an awareness of the cultural and disciplinary differences of the students.

4.3.3.2. Teacher Identity and Responsibilities

With the change to EMI, conflicts arise for the participants regarding appropriate action and responsibilities. The challenges of the 'new' learning environment present a series of concerns that previously were not part of what the participants refer to as 'their job.' The participants now question if, in addition to their concerns for the transfer of domain specific knowledge, they are also responsible for teaching the students how to behave and study in the EMI setting. These changes in the study environment, taking into account the student population and change of medium, has resulted in the participants asking new questions about what should be included in their role as teacher and where responsibility lies.

Given the diversity of educational backgrounds and cultures mentioned in the previous section, there is a common experience among the participants that students coming from different national educational programs succeed at different levels in the Danish assessment system. In her interview, Bodil described such a situation, expressing great frustration over the fact that she could clearly see a demarcation in the exam results of her courses. In her experience, Danish and northern European master's degree students managed the course requirements (e.g., projects, papers, exams, etc.) much better than to students from other parts of the world. Bodil explained that the international students, i.e., non-Danish students, did not know how to do project work, how to find articles, or basically how to work independently. She found this situation unacceptable, but said she was at a loss as how to proceed. She asked: "*Are we supposed to use time to teach them how to do these basic things?" (Bodil; interview)* From her comments, Bodil argues that a focus on basic study skills and cultural information for students goes beyond her definition of her professional expertise and thus her teacher responsibilities:

> *We have to be aware that if we invite students, we have to help them. I think it should come from the International Office and the Faculty. The Faculty because they accept some students who just shouldn't be here. The other is, that even those who have the language skills and the academic background, they don't know how to do the projects. And there, you could provide a training course. It shouldn't be that difficult to arrange. We are the domain experts so I don't think it is our responsibility. (Bodil; interview)*

The challenges of cultural differences on the participants' teacher identity extends beyond academic concerns. For example, in teaching EMI courses for PhD students, both Jon and Nicholas have been thrown off guard by requests from the students to play the roles of social planner and refreshment provider. Neither of these participants includes these elements of the job in their teacher identity and both express their frustration about this several times during their interviews:

> *Yeah, the thing is that I have, it – when I was being taught, I didn't see it as the teacher's job to organize social events. And I still find that it is weird that I have to organize social events for grown ups, knowing that all the Danes will hate the fact that I organize a social event because then they cannot go home to their families. (Nicholas; interview)*

The differences in expectations of the heterogeneous student population challenge the participants' personal definitions of their job requirements. Jon notes that this goes well beyond academic expectations and definitions of authority in the classroom, as described in sections 4.2.1.1 and 4.2.1.2., and extends to responsibilities as elementary as cleaning up after one's self when coffee has been served.

4.3.4. The Secret to my Success: Experience & Growth

> *JK: when you think " I am a teacher"… is there a difference in Danish and English?*
>
> *I don't think so that much anymore. There was 10 years ago. But I don't think there is now. It has become has become a big 'of course' – just the way it is. (Otto; pilot interview)*

In the statement above, we see that Otto believes that he has grown into his teacher identity as an EMI teacher. It was more challenging for him a decade ago, however, now it is 'just the way it is.' Like Otto, most of the participants tend to link the teacher identity they currently possess to their experience and growth as teachers over time, regardless of the medium of instruction. Thomas reiterates this sentiment. In discussing his awareness of audience perception of his own lecture performance, he talks about his own growth regarding the use

of English for teaching. During his interview, Thomas comments on his preference for improvisation as a teaching style when reaching out to a distant audience – times when he feels when there is a 'glass wall' between him and the audience. Here he acknowledges both his challenges and growth when lecturing in English and the role experience has played for him:

> *It used to be more profound in English then in Danish. That could be because I do function best if I can improvise. I cannot stand there and read a manuscript – first because I think it is a waste of time to do it, it is not interactive. .... And that I used to be worse at doing in English, compared to Danish. But now it is much better. It is just a question of experience – practice, practice, practice – experience. (Thomas; interview)*

Lise also expresses a belief that experience and growth are linked together to form her overall teacher identity regardless of the language of instruction:

> *… but they all come together. It is part of the same thing. That I wouldn't get the expertise or I think I get the expertise due to having this professional identity, then I want to learn more and expand. And then, you know, I broaden up my expertise, you can say. And I think when the students look at me, by having this professional identity, I also even more have this authority toward the students.…*
>
> I think I do it in the same way, no matter if it is Danish or English. But of course I have changed my teaching because of experience. (Lise; interview)

As exemplified in section 4.2.2, nervousness, lapses in confidence, or weaknesses in language proficiency, appear to be alleviated by experience and preparation, to the point where one's teacher identity is intact. As evident from her statement below, although Bodil acknowledges her limitations in English, the challenges of teaching using the language do not derail her. She is aware of her strengths in Danish. Experience nonetheless provides her with the confidence she needs to teach using English as the medium of instruction to the point where she does not view lack of proficiency to be a problem.

> *I can speak more freely in Danish, so I think it is easier to create more interesting lessons in Danish – it is easier for me to interact. But, again, the more teaching experience I gain, the better it becomes. …My English is a little distant right now, but once I have been teaching in English for a while, it isn't a problem. (Bodil; interview)*

The more teaching experience she gains, the stronger her pedagogic and pedagogic content knowledge becomes – again, regardless of the medium.

As noted in some EMI research (Hellekjær, 2007; Tange, 2010; Westbrook & Henriksen, 2011), fostering classroom interaction and improvising while teaching in a can be a challenge

for some teachers. Both Bodil and Thomas's comments confirm, however, that although difficult at first, practice and teaching experience provides them with a bedrock of pedagogic- and pedagogic content knowledge that they can apply to their teacher identity.

4.3.4.1. Need for Language Training?

Interestingly, although the participants appear to take stock in experience and growth and the benefits of in-service training, they express a lack of interest in language training at this stage of their careers. Of the 10 participants, only Bodil expressed interest in language training at this time. However, in her case, her superior felt that she could benefit more from attending conferences to build on her disciplinary content knowledge. Otto and Jacob reported that they took language training courses several years ago, at the start of their EMI experience. In Jacob's case, he clearly recognizes his limitations with the language but does not believe the cost-benefit for improvement is presently worth it:

> *I didn't think that much about my language. About 6-7 years ago I took a brush up course … What I learned was that basically it works, grammar issues. And if I really want to improve, I would really have to put a lot of effort into it. Which I am not willing to do. (Jacob; interview)*

Generally, the majority of the participants simply responded that they believe that have adequate proficiency to achieve what they want to in the classroom,

> *No. …Of course, everyone can improve, but I think I can manage. (Tobias; interview)*

and, if anything, training in didactics and pedagogy would be more beneficial at this point in his career.

> *Yes, I would like to, if I should have any type of training it should include more pedagogical tools, not so much the language (Thomas; interview)*

4.3.4.2. Pre-service and In-service Pedagogic Development

Having defined their teacher identity as an interplay between professional identity, personal identity and institutional identity, the 10 participants all include general pedagogic knowledge in their mixed repertoire of skills. In recent years, the Danish university system has instituted

a mandatory assistant professor teacher training program (*adjunktpædigogikom*). Several of the participants mention having been through this program earlier in their careers and the impact it had on their skills.

> *Yeah, I have changed significantly after having, when you are an assistant professor you have this adjunktpædigogikom, and tried to learn a bit from that one (Jon; interview)*

The participants, in particular the younger ones, commented on the impact of such in-service training. The inclusion of didactics and pedagogy in the skills base of an academic by the university appears to have legitimized this element of the participants' teacher identity. Where previously teachers were expected to acquire these skills on their own, these participants express appreciation for their growth and expansion in this area. Here Bodil notes her revelation regarding this aspect of her development:

> *I have become more – I think I think more about what I do now. Also because I have had pedagogy courses. That has also opened my eyes quite a bit regarding what I want to achieve. But, it has also become more legitimate for me to use time on my teaching. At first, prior to just 2 years ago, I was hired to work on a project – so I wasn't really hired to teach. So I didn't spend that much time on preparation. Now, I can use more time to try to consider the overall goal and coherence of the teaching. So in that way, I have become more aware. (Bodil; interview)*

As Bodil becomes more adept in her pedagogic knowledge and gains teaching experience, she believes that the medium of instruction does not play a role in her own perceptions of her teacher identity.

> *JK: How do these relate to your definition of your own professional identity / professional authority / professional expertise when teaching in English?*
>
> *I am not really convinced that it makes a different. I think more about how to make it a more even playing field, I have changed where now I may give a summary and get their input and say, this is where we are and build on that. But that is more from my pedagogic expertise. (Bodil; interview)*

On the contrary, she is more concerned with the transfer of knowledge, regardless of medium. Experience in the classroom and a better understanding of her students' needs has changed her focus. Likewise, Elias speaks of his growth and development on the job. For Elias, development of his domain specific knowledge, his discipline, has been a key factor. But more importantly for him, he is now able to link the learning objectives for his courses to his teaching, for a more stimulating result.

I have developed myself in two ways. First off, just basically in my discipline – so I am know my material better. And I know what problems they encounter each day, basically. So I focus more and more emphasis on that the teaching should match up with what they meet and this makes my teaching more interesting. ….

– this is something that I have really been working on. And this is also so that I can relax a little more. I have taken courses. I'm doing this because I would like to be able to relax a little more. The courses that I have had - they don't have to be theoretical or practical – I just want to have something that I can use – tools. But I think about it – I took a course in e-learning. (Elias; pilot interview)

His growth in this area has helped him to relax and include 'good teacher' in his own teacher identity.

4.3.4.3. Obligatory Language Testing and Teacher Identity

In concluding the semi-structured interview, I asked the participants' to describe their opinions about the TOEPAS, the language proficiency test they were required to take. The participants discussed their reflections on this experience in relation to their teacher identity. This section of the interview consisted of seven questions. These questions were not part of the pilot study, but were added to the interview schedule after analysis of the data from the pilot interviews. Therefore only seven of the 10 participants responded to these questions. In general, all seven participants' reflections tend to show no relationship between external evaluation of their English language oral proficiency skills and their teacher identity.

In reference to the obligation to take the test and the test format itself, all participants responded that they thought this was an "appropriate," "fine," and even "fun" activity. A couple of the participants mentioned a slight nervousness in regard to the testing situation, but on reflection, they did not believe going into the test that the outcome would change their own personal attitudes about their abilities in the EMI classroom. Lise notes this in her comment: "*…I thought, now I have done that for so many years, so it would be a bit strange if they come and tell me that it isn't good enough*" *(Lise; interview).*

Of the seven participants, three noted that they were disappointed in their result and would have like to have received a higher mark. However, given the feedback, they understood the result. For the most part, the participants state that the results of the test provided confirmation of what they already knew and that these results did not affect their individual

cognitions about their professional identity or expertise. Jacob commented, *"No. It effected – it is the same message I got 8 years ago from that course. It confirmed what I knew. I can work a little to improve – basically not a big problem"* (Jacob; interview).

Overall, the participants did not spend a great deal of time reviewing the written feedback or the video they received in connection with their proficiency test results and did not talk to their colleagues at great length, if at all, about the results. These results replicate those found by Dimova (2012) in her preliminary study which focused on the effectiveness of the formative feedback of the TOEPAS for participants from the former Faculty of LIFE (see section 2.1.1.1).

4.4. Summary

The results presented here extracted from the data set both replicate and challenge findings from teacher cognition studies, as well as EMI studies conducted with content lecturers in other higher education settings. Through reflection, the participants describe elements of their identity that can be characterized as dynamic, complex, and changing over time. They provide descriptions of how they believe their outlook and approaches to teaching has altered and developed, especially as the educational context around them has changed.

In relation to the shift from teaching in the L1 to L2, the results presented are similar to the early findings from the Netherlands and the Nordic countries. The participants in this study are comfortable teaching in EMI settings. They recognize their own feelings of a lack of precision with lexis, pronunciation, or grammar. However, as noted in previous studies, the participants do not believe that these limitations hinder their performance in the classroom. The lecturers in this study express little to no frustration with regard to any restrictions caused by lapses in their oral proficiency. They just get on with their teaching. From their comments, it is apparent that these lecturers rely on a triangle of knowledge that is composed of their preparation, experience, and multiple levels of knowledge and expertise.

CHAPTER 5:
Discussion

This research project is a qualitative teacher cognition case study. I focused my investigation on the reflections of experienced Danish university lecturers in the natural sciences about their teacher identity with relation to teaching EMI graduate courses. Considering that EMI as a field of research has had a relatively short lifespan thus far, there is a sizeable amount of research focused on university teachers' attitudes about EMI policy, teaching and experiences (Airey, 2011a; Hellekjær, 2007; Jensen et al., 2009; Jensen & Thøgersen, 2011; Klaassen, 2001; Tange, 2010; Vinke, 1995). However, only a limited number of these studies have delved into cognitions about professional teacher identity in higher education.

The research methodology for this investigation included classroom observation, stimulated recall, and interviews to collect data. The data analyzed in chapter 4 derived from the semi-structured interviews I conducted with the participants. This chapter reflects on the key findings presented in the analysis with regard to the overarching research focus of the study. The results are also discussed relative to previous research studies.

5.1. An Overview of the Findings

The overarching focus of this investigation considers how EMI lecturers in the natural sciences define their teacher identity, in particular given the shift from teaching in their L1 (Danish) to teaching in their L2 (English). This investigation included probing the participants to reflect on their teaching agendas and classroom management styles, when teaching through their L2 in this multilingual, multicultural educational setting. In addition, I also investigated whether directed focus on oral language proficiency for teaching graduate level courses at Danish universities through obligatory assessment with subsequent formative feedback affected the lecturers' performance and/or teacher identity.

To begin with, analysis of data extracted from the interviews held with the participants resulted in the construction of a model of teacher identity that includes three subcomponents, i.e., *professional identity*, *personal identity*, and *institutional identity*. Secondly, consistent

with the findings in previous attitudinal studies, I found that the participants in this study identified many of the same EMI challenges, e.g., issues related to language deficiencies (their own and their students), and cultural and educational diversity. Nevertheless, a key finding here is that none of the participants claim that meeting these challenges contests teacher identity. Thirdly, my findings show that experience and growth support the participants' self-defined model of teacher identity. Lastly, on a more global level, the findings in this study contribute to the field of teacher cognition research. The models stemming from the analysis of the data support the notion of teacher cognition as hierarchical, complex and dynamic.

In this chapter, I expand on the findings presented in Chapter 4. First, in section 5.2, I discuss the model of teacher identity that emerged from the participants' reflections in relation to the literature on teacher professional identity and teacher cognition. Next, in section 5.3, I move beyond this model to discuss the concept of communities of practice and related aspects of domain structure and language proficiency. In section 5.4, I revisit Shulman's (1987) suggestions for minimum required knowledge for teaching, and propose two additional types of knowledge that should be added to this required list when teaching in the multicultural, multilingual context. In section 5.5, I touch on the field of teacher cognition in light of the findings of this study. In the final section, I conclude with my own reflections on the methodology used in this study.

5.2. Teacher Identity Defined

Prior to conducting the interviews, I approached this study with my own conception of professional identity. Similar to much of the literature in this area, I used the term professional identity synonymously with academic identity, teacher identity, and teacher professional identity, with little differentiation. However, in conducting the interviews, I did not present predetermined or prefabricated definitions of the concepts to the participants. On the contrary, I allowed each of the participants to establish baseline definitions of the general concepts that they eventually used to formulate their responses to the interview questions. Using their responses to printed prompts over the course of the interview, I mined the definitions from the participants' reflections. Ultimately, from analysis of their responses, a model of *teacher identity* for lecturing in this EMI natural science environment emerged. This

model, illustrated in Figure 5.1, includes subcomponents of professional identity (comprising both professional expertise and professional authority), personal identity, and institutional identity.

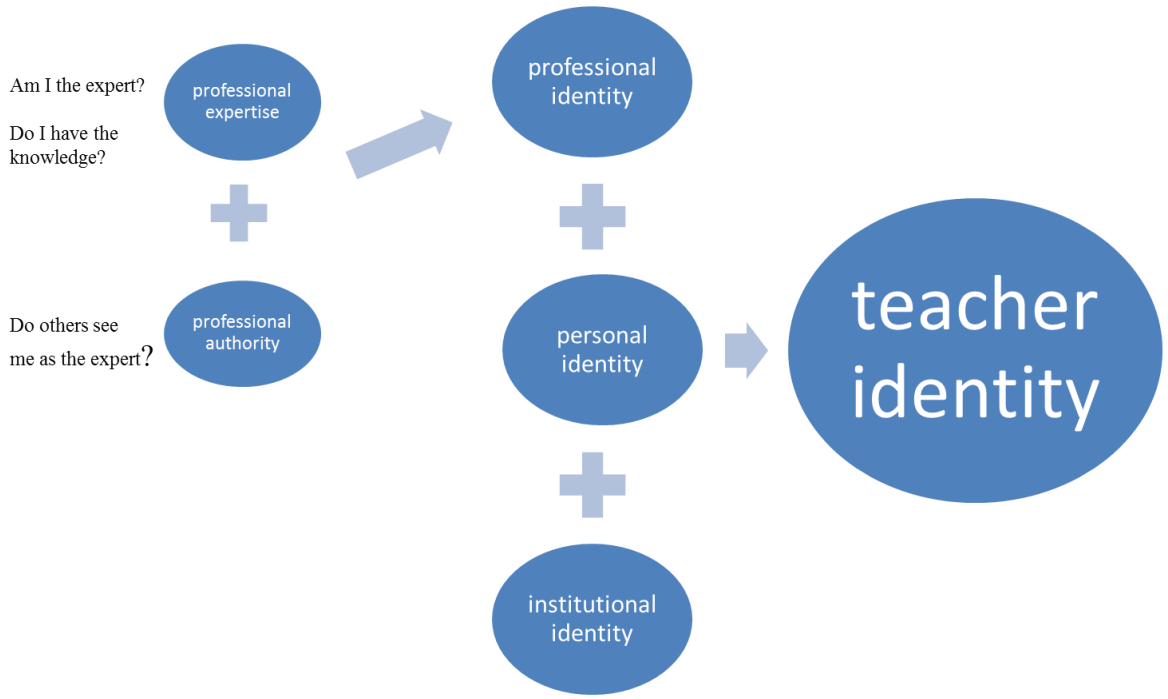

Figure 5.1 Teacher Identity and its Subcomponents

The model above shows the interrelated identity components identified from the data that make up *teacher identity*. On the right side of the diagram, teacher identity comprises three distinct components: *professional identity*, *personal identity*, and *institutional identity*. Each of these types of identity plays a role in creating a global picture. To begin with, professional identity, illustrated on the left of the diagram, entails not only one's professional expertise, but also one's professional authority. According to the participants, possessing knowledge in isolation is not sufficient. Professional expertise, which comprises disciplinary content knowledge, as well as pedagogic knowledge, and pedagogic content knowledge, must be linked to the acknowledgement of these types of knowledge by the wider community. The second element, personal identity, consists of characteristics unique to each individual that make them who they are as teachers, e.g., someone who is approachable, spontaneous, or confident. Finally, the third element is institutional identity in the form of hierarchical

position in the academic community. I address these three elements in the following subsections.

The participants are aware of the multidimensional nature of their teacher identity. Being multidimensional is consistent with the assertion that identity is "being recognized as a certain 'kind of person' in a given context" (Gee, 2000, p. 99). The participants here support this notion of recognition in their emphasis on the need for acknowledgement in building their professional identity and thus a composite teacher identity. Without external acknowledgement by the appropriate stakeholders, they are left with only their own perceptions of their expertise levels in their own areas of interest.

5.2.1. (Re)defining Professional Identity

Overall, my findings add to the existing research in educational studies that describe the professional identity of teachers. In their survey of literature in 2000, Beijarrd et al. note that the teachers in the studies "derive their professional identity from (mostly combinations of) the ways they see themselves as subject matter experts, didactical experts and pedagogical experts" (p. 751). While the analysis from my data is consistent with this definition, my results show that this definition is only a part of the picture. While the results presented in chapter 4 mirror the same sources of professional identity, Figure 5.1 shows additional elements of this construct. For the participants in this study, being an expert in subject content is not enough to establish professional identity. The participants draw their professional identity from both their self-perceptions as experts and the external acknowledgement by others of that expertise. Thus, the combination of these elements brings about a new definition of this concept. The participants in this study derive their *professional identity* from this knowledge base (as subject matter expertise, didactical expertise and pedagogical expertise), i.e., *professional expertise,* and how others perceive this expertise, i.e., *professional authority*.

In their later work, Beijaard et al. (2004) identified in previous literature four characteristics essential for building a *professional identity*. These four characteristics describe that professional identity:

1) is an ongoing, dynamic process in which teachers interpret and reinterpret their experiences
2) implies both person and context
3) consists of several sub-identities that are more or less in harmony with one another
4) is based on self-direction ('agency').

Again, the findings in this study are consistent with this description. However, in this case, the definition is expanded to include the entire *teacher identity* model. The participants' reflections show an ongoing process of interpretation and reinterpretation of practical experiences, and include several sub-identities that are intertwined. Jacob's description of the dynamic nature of his expertise and identity exemplifies these characteristics:

> *...So that is some sort of my expertise. And one could say this – well this one is maintained over the years (ed., professional identity), this one (ed., professional expertise) is something linked a little bit to my profession, this one – it changed because some of my specific expertise is actually, one could say lost, because I don't work with that system or that method anymore. Some of the younger staff members would be the right people to ask about this. And then I get some other professional expertise, one could say, to some extent I get a little bit more now professional management expertise because I am leader of this and that. And so I have this sort of expertise and some of the going to the microscope and doing this and that, I am simply less good at that now, then I was 10 years ago. So this one (ed. professional expertise) is drifting a little bit. Not necessarily for the worse – but if you draw a circle of what I can do, then part of it changed. (Jacob; interview)*

This quote is an excellent example of the active role his personal interests and professional growth play in his professional development and his personal definition of teacher identity, i.e., how his teacher identity shifts based on his own self-direction or agency. Through changes in his professional identity (i.e., professional expertise and professional authority), along with elements of his personal identity (see 5.2.3) and institutional identity (5.2.4), Jacob continually reassesses his context and reinterprets his teacher identity. Although Beijaard et al. (2004) found these characteristics throughout the research literature on teachers' professional identity, they note from their review a lack of clarity of definitions of the key constructs. The analysis presented here addresses this critique. Through the voices of the participants presented in this case study, a clearer discrimination of the concepts that make up the definition of teacher identity appears.

By defining teacher identity as an amalgamation of multiple identities, as suggested by Beijaard, et al. in point 3 above, my analysis is consistent with Gee's (2000) proposition that

identity is multidimensional. As I have described, my analysis results in an extended definition of teacher identity that goes beyond Beijaard, et al.'s (2000) definition of professional expertise. Teacher identity consists of a blend of professional identity, personal identity, and institutional identity. This definition supports Lamote and Engels' (2010) suggestion of the unlikelihood for teachers to be able to separate out who they are as people from how they act as professionals. In the next section, I highlight this aspect of individuality and personal identity in the formation of one's teacher identity.

5.2.2. Personal Identity Characteristics and EMI 'challenges'

Language challenges?

Previous EMI research repeatedly reports that both students (Airey, 2009) and lecturers (Jensen & Thøgersen, 2011; Tange, 2010) minimize the role of language in EMI. The results I present in this report are quite similar. In discussing aspects of their *professional identity*, *personal identity*, and *institutional identity*, the 10 participants in this study repeatedly express that they do not believe that their linguistic limitations, such as those weaknesses identified in their own language from, e.g., their proficiency test (TOEPAS) results, influence their notion of their own teacher identity when teaching EMI courses. The lecturers have established themselves. They have solid reputations as not only teachers, but as researchers and academics in general.

These lecturers, similar to those in Vinke's study, report they hardly notice any differences in teaching in their L1 or L2; however, they do admit to having developed compensatory strategies to assist them in their teaching. Overall, the participants' reflections tend to describe broad, general cognitions about themselves, their teaching strategies, and the initiatives they take for EMI. Comments about the perceived challenges that are repeatedly mentioned in the EMI literature, e.g., lecturers' own perceived lack of nuance in English (both lexical and grammatical), less precision, reduced ability to use humor and storytelling in teaching, reduced ability to draw on cultural examples, slower production as well as increased workload, both in terms of preparation and physical energy, are voiced, but to a lesser extent in my data. While the participants note the effects that their own personal weaknesses in proficiency have on their oral production, there is a general agreement among the lecturers that it does not cause them to reconsider how they perceive themselves as

teachers. In addition, several of the key elements that have received a great deal of attention, e.g., reduced ability to use humor and narrative, slower production, etc., are considered to be individual personal characteristics that do not, according to the participants, change from one language to another. For example, in their reflections about tempo and rate of speech, the participants in this study explained that they purposely monitor their rate of speech in order to be more comprehensible when lecturing. They expressed personal concerns for speaking too quickly in English. The participants claim that this personal characteristic of speaking too quickly could be detrimental in EMI since they are aware of the differences in linguistic proficiency of both themselves and the students. So, although slower production has been observed (e.g., Thøgersen & Airey, 2011), it appears that this change may be strategic.

Cultural, Disciplinary, & Cultural Diversity

In addition to the focus on language, the participants in this study reflect on both their interest in and their frustrations about differences in student backgrounds. This is consistent with Tange's (2010) findings that showed that lecturers noted concerns about the ramification of the breadth of the cultural and linguistic proficiency differences among their students in their EMI classrooms. However, in this study the participants' voiced frustrations are not only limited to the cultural diversity of the students, although this is mentioned several times. Their frustrations, similar to the participants in Hellekjær (2007) and Jakobsen (2010), stem from the broad cultural diversity, and, in some cases, a lack of domain specific background knowledge and academic study skills the students come with to their Danish EMI classrooms. For example, in the quote below, Thomas describes the challenge he faces in teaching his graduate courses. Prior to the internationalization of higher education, lecturers in Danish degree programs knew a great deal about the curriculum their students had been exposed to in their undergraduate studies. The situation now is quite different:

> *Yeah. It is related to teaching these Erasmus-Mundos programs where we have half of the students coming from non-European countries. So, that means that you have people from Africa, from Asia, from South America, and so on. And they have completely different backgrounds, and also they have different bachelor degrees from different disciplines. So we are teaching people who have an in-depth knowledge in natural sciences, but we have also among them social scientists, who have no background in natural science. And, of course, you have to be aware of that, and try to adapt your teaching. (Thomas; interview)*

Because of internationalization in the student body, the lecturers are often at a loss in knowing how well their students are prepared to study in Denmark in terms of their academic

preparation, educational cultural awareness, and English language proficiency. Students come from such diverse programs that it is difficult to determine the background content knowledge of their students. When teaching this cohort of the students, it can be problematic for the lecturers to find a balance. They must focus on the content of their courses, and address the student needs and expectations. The lecturers find themselves striving to meet the specific curricular demands of their departments while working with this diverse student population that range not only in language proficiency, but in domain content knowledge, as well as educational cultural differences. In their opinion, students enrolled in their courses are not prepared to study in the Danish educational system. The students are not aware of Danish educational traditions. The need for lecturers to support graduate students in both pre-requisite disciplinary background knowledge and academic study skills creates additional elements of their teaching responsibilities that are beginning to challenge these lecturers' teacher identity. This is evident in Bodil's reflections when she asked: "*Are we supposed to use time to teach them how to do these basic things?"(Bodil; interview)* In her opinion, this new territory extends beyond her domain specific teaching responsibilities, and thus challenges her concept of teacher identity.

The Role of Experience & Age

Similar to Vinke's (1995) informant population, the participants in this study were experienced lecturers who teach regularly in English. The participants in this study have an average of 17 years teaching experience, of which, on average, almost 9 years have been in English. And, consistent with Klaassen's (2001) and Jakobsen's (2010) results, these experienced teachers report that with time, they find the 'challenges' of teaching through a foreign language (listed above) less and less challenging. Not surprisingly, connected to the number of years of teaching experience (calculated by the number of years of teaching), age appears to be a key factor in the equation.

Age of lecturers has been a discussion point in surveys focused on attitudes about the implementation of EMI. Confirming their hypothesis that younger academic staff would be more positive toward English at universities than older academic staff, the results from UCPH's university-wide survey showed a very clear pattern: The younger the respondent to the survey, the more positive their attitudes were to the increasing use of EMI (Jensen & Thøgersen, 2011). The extended (Danish) version of the UCPH survey (Jensen et al., 2009) also reported that those between the ages of 41-50 and 51-60 had a higher tendency to agree

or partially agree to statements about problems concerning a general lack of ability to discuss their discipline in English. Similarly, van Splunder (2010) noted that older lecturers reported a self-perceived lower level of academic English in comparison to their L1. He also reported that the younger lecturers in his study associate English with a sense of freedom, while the older ones report the opposite. The older lecturers convey an awareness of less spontaneity, humor and dynamics in their English when teaching.

In contrast, the participants in this case study appear to show opposite tendencies. The two oldest professors of the cohort, Jacob (57 years old) and Thomas (62 years old), convey very positive attitudes to EMI. From their comments, it appears that they have the greatest confidence and the least concern for the switch in medium. They express without hesitation their level of confidence and ability to be themselves in the EMI context:

> *What I would say basically with this team. I feel very confident – I am the authority, but I also feel positive and confident talking to the students socially. Making small jokes about this or that. I hope they see it the same way. (Jacob; interview)*

and

> *No – I am pretty much myself, I think. I am not trying to present some kind of an attitude – when I go into the classroom, I am still just Thomas, right. But I have become more and more aware of which teaching tools I can use. (Thomas, interview)*

These two professors happen to have both begun their teaching careers at a young age. Thus, in their cases, with age comes experience. Both men have approximately 30 years of teaching experience each. Thomas and Jacob have developed a stable sense of teacher identity. Their reflections demonstrate an understanding of the multidimensional character of this identity that includes elements of professional identity, personal identity, and institutional identity. So, although the job requirements may have changed due to all that goes with globalization and change of medium, experience and growth have helped them define a sense of identity. Jacob expressed a strong sense of the nature of these aspects.

> *It is hard to say because I have also gotten older. At this point, I am old enough to be a father to the PhD students so I am much more like a mentor than methodology supervisor. That changed at the same time, so I can't separate these. (Jacob; interview)*

His experience, his age, and his expertise are interlaced. This combination has developed his teacher identity profile over the years.

Although none of the participants report that the challenges of the switch to EMI cause them pause in relation to how they perceive their teacher identity, the younger participants do mention the challenges of the language more often than the older professors. In addition, in discussing the challenges, they tend to focus on their growth and experience in relation to their professional expertise. For example, Elias, the least experienced teacher in total number of years, reflects on his content expertise, pedagogic knowledge, and pedagogic content knowledge to help him develop his teacher identity:

> *I have developed myself in two ways. First off, just basically in my discipline – so I know my material better. And I know what problems they encounter each day, basically. So I focus more and more emphasis on that the teaching should match up with what they meet and this makes my teaching more interesting. ….*
>
> *– this is something that I have really been working on. And this is also so that I can relax a little more. I have taken courses. I'm doing this because I would like to be able to relax a little more. The courses that I have had – they don't have to be theoretical or practical – I just want to have something that I can use – tools. But I think about it – I took a course in e-learning. (Elias; pilot interview)*

Elias believes in his disciplinary content knowledge expertise. His insecurities lie in his lack of experience as a teacher. Elias is a work in progress. He states: "*secure – not always – more with time – sometimes*" *(Elias; pilot interview).* He acknowledges that experience provides with a great sense of security. From the quotes above, Elias expresses his desire to increase his pedagogical knowledge and his pedagogical content knowledge. He would like to expand his professional expertise.

Overall, like the older lecturers, and similar to the other studies mentioned in Chapter 2, all of the participants are very positive toward EMI. Variances in responses to the prompts in card sorting activity 1, which listed individual personality characteristics, cannot be differentiated by age or teaching experience. No patterns appear in relation to responses to feelings of insecurity, inhibition, nervousness, etc. Instead, these elements appear to be linked more directly to one's individuality.

5.2.3. Relationship to Institutional Identity

The third component in the teacher identity model is *institutional identity*. As a point of departure in the context of this study, namely higher education for Danish lecturers in the natural sciences, the multifaceted elements of teacher identity can be plotted along Gee's (2000) identity theory. Gee proposed using identity as an analytical lens for educational

studies. In his work, he describes four interrelated views of identity, of which two provide a lens through which to consider the findings in this study. For the purpose of this discussion, I believe that aspects related to teachers' institutional identity, the third element in my teacher identity model, resonate with Gee's views on institutional identity (I-identity), and affinity identity (A-identity).

Gee defines these two aspects as:

- institutional identity (I-identity): a state that stems from authoritative powers within an institution (e.g., a professor, an inmate)
- affinity identity (A-identity): identity that develops based on experiences shared with a like-minded group (e.g., sports fans, *Star Trek 'Trekkies'*).

First of all, with regard to university professors, the I-identity can be viewed in the positive sense (as opposed to a negative sense, as in prison inmates). Teachers rise hierarchically through the ranks based on the powers of a set of external authorities. As professional academics, there is a pecking order in ranks, with full professors awarded the highest status. What this status entails, however, can differ greatly from culture to culture. In some cultures, this status awards lecturers an unconditional sense of authority. However, in Denmark, this unconditional authority is not favored, and is often rejected. For example, while in principle this view of the Danish lecturers' identity does exist, the participants in this study comment that in practice they prefer not to rely on their I-identity in regard to their value as teachers in the Danish classroom.

In addition, Gee's A-identity lens provides an additional fit in the Danish EMI classroom. In considering their institutional identity (i.e., the third element of the teacher identity model, see Figure 5.1.), the participants' A-identity relates not only to the position they have been given in a certain institution, but also to the explicit and implicit underlying norms of that institution. More specifically, the participants of this study are a part of a particular community. They are all lecturers in the (former) Faculty of Life Sciences at the University of Copenhagen. As lecturers in this Danish educational culture (Hoelgaard, 2011), the participants find themselves adjusting and adhering to particular societal norms of this environment. Because the Danish system is defined as a democratic educational culture, pedagogical tradition is one that promotes analysis and inquiry, as opposed to top down factual knowledge dissemination. In Danish classes, students are encouraged to question,

challenge, and confront a teacher's professional expertise. As such, authority as a classroom management tool is not valued by the teachers or by the institutions. Authority based on a view of identity handed down to them by a hierarchical power is rejected. The teachers do not want to rely on it. They claim that the use of this type of power builds walls between them and the students. Jacob, a full professor, rejects using his status as a tool:

> *I don't want to use my authority, because I am a professor – that is a stupid answer. the term in Danish, is absolutely negative – …you use your position, age, power to state 'this is how I want it' …You may have a group of students that you say, it is like that because I say that. …I hate to do that. In between I use it. It is a last option. I prefer the situation that we jointly moved forward, because of this, this, this, – that they make the choice themselves. (Jacob; interview)*

However, the participants all claim that the way they are perceived has changed because of the switch to EMI. Given the change in population, the lecturers believe that they are ascribed certain characteristics based on the background of those they interact with; they are seen as a certain type of person. The educational cultural background of specific student populations affects how the lecturers are perceived. Although the lecturers have their own perception of their institutional identity, the students' perceptions are often conflicting. Jacob continues his observation, noting that the idea of viewing professors as authority figures is a value ascribed more often by non-Danish students that tends to dissipate with extended exposure to the Danish education system:

> *… But, it is again mixed with students from abroad. They are often a little bit more loyal to authority systems then the Danish students. You know, 'dear professor' – the longer they stay in Denmark, the more used to the system they get. (Jacob; interview)*

There is a 'system' that the non-Danish students become accustomed to. It is this system with which he has an affinity. Likewise, Nicholas describes how cultural background plays a role in how he is perceived. He is fully aware that his style of dress and his demeanor do not correlate with some of his students' vision of a professor.

> *I think the students from very different cultural backgrounds see me differently. But, on the other hand, they are, maybe they just have to come – sometimes it seems like they just have to convince themselves that it is actually a teacher – because the person standing there is not wearing a suit and tie. But I think that is sort of a general thing for anyone who comes from Bangladesh or Abu Dhabi, for that matter, or any other place where, where, I guess the universities are a bit more hierarchical. …there the professor or the general university teacher would be seen as like a god. (Nicholas; interview)*

From the results, it is clear that the lecturers include an element of institutional identity in the overall construction of their teacher identity. But it is vital to contextualize the values of this element. While institutional identity is linked to the university setting, to one's department, and to one's status, there is a distinct awareness of separation between institutional identity and teaching methodology, and the professional impact this interpretation has on the students. The participants' Danish interpretation of institutional identity feeds into their teacher identity.

5.3. Communities of Practice

This distinction between an 'us and them' perspective that Jacob and Nicholas describe above, extends beyond a general affinity (A-identity) to one particular group, e.g., lecturers in Denmark. In their responses, the participants clearly referenced their teacher identity within the world of natural science and as EMI lecturers. The participants are not just seeing themselves as university teachers, they see themselves more specifically as teachers of natural science. In discussing approaches to teaching through the medium of English and their focus on specific domain related terminology, the participants consistently made reference to English being the language of science and an accepted medium for teaching natural science courses.

> *I guess, to explain new terminology. That could be relatively challenging. Well, actually, I think that, um, often explaining new terminology might be easier in English because the words are often derived from English literature, and they make sense in English, whereas they may not always make as much sense in Danish. So it could be actually a little more challenging to explain it in Danish than in English. (Jon; interview)*
>
> and
>
> *No, I think that it is completely natural to use English as the university level because it has been the language of science, language of publication for years. In that regard, it is completely natural … it is all in English… (Otto; pilot interview)*

Not only do the participants endorse English as the language of science, some of them claim to feel a stronger teacher identity in English. For example, Elias has more experience in his field in English than in Danish: "*I think it is stronger in English, actually …because it is going on in English – also in my discipline. … yeah, in a field like mine, it is almost always in English (Elias; pilot interview).*

The strong relationship these participants describe to the use of English as the language of their domain appears to support Jensen & Thøgersen's (2011) assertion that membership in a designated community of practice (Wenger, 1998) may positively affect one's outlook regarding EMI. They contend that it is possible that respondents to their survey were involved in departments or programs in which EMI is a necessity, so, therefore, have positive attitudes to the shift.

Here, the participants are all EMI teachers of science. As members of a like-minded community of practice, the lecturers believe their teacher identity to be intact since they all are practitioners sharing a similar perspective. When LIFE systematically shifted to an EMI platform, the members of the community kept up with the changing times. Naturally, as with any group membership, there are aspects that members embrace more than others. Wenger (2000) acknowledges that membership in a community is multifaceted. As members, we tend to identify more with aspects that we find familiar and already know. We also begin to recognize those aspects we believe we can safely ignore. It is these two aspects, what we accept and what we ignore, that I address here in relation to teaching and domain specific language for EMI.

First, before delving into these aspects, it is necessary to recap on the characteristics of the participants in this study. The 10 participants shared the following characteristics:

- Tenured academic staff
- Employed at the Faculty of Life Sciences
- Danish L1 speakers
- TOEPAS result – minimum 3

The same characteristics that made these lecturers eligible for this study, in a sense, make them part of the same community of practice. By their own definition, this community is one that shares a teacher identity delineated by similar constructions of professional-, personal-, and institutional identities. They are also bound by the beliefs that this teacher identity remains stable when teaching in their L2.

As an overview, the results from the interview data present a picture of an experienced group that uniformly practices student centered teaching for science education. Through the

descriptions of their visions of the good teacher and teaching strategies in the multilingual, multicultural classroom, they define the L2 EMI lecturer community.

> *… the fact that English is the (speaker's emphasis) scientific language which one could, I think most Danes, including me, be trapped a little bit with the lack of vocabulary. To some extent, it can be easier to have this professional attitude when speaking English because we present seminars in English. We hardly present a real scientific seminar in Danish because there are always some foreigners listening, so this is normally in English. (Jacob; interview)*

On the one hand, they associate with those aspects of the community of practice they feel comfortable with and recognize. On the other hand, there are also areas that they choose to overlook. The most notable area that appears to be discounted is their language related weaknesses. I believe that the willingness of this population to discount language related weaknesses may occur for several reasons, such as:

- the domain structure and language
- the lecturers' perception of their current L2 proficiency
- teaching experience (both positive and negative)
- student evaluations, etc.

In relation to the findings outlined in chapter 4, I discuss aspects of domain structure and language, as well as the lecturers' perception of their current English proficiency.

5.3.1. Domain Structure and Language

In this section I discuss the relationship of domain structure and language, and the role this relationship had on perception of language proficiency needs on the part of the lecturers. Starting with domain structure, the courses in the natural sciences (the hard disciplines) are highly structured with an emphasis on facts, principles, and concepts. This is in contrast to disciplines such as the humanities or the social sciences (the soft disciplines) that traditionally have more open course structures that emphasize broad, general knowledge, creativity, and verbal argumentation (Neumann, 2001). The difference in emphasis of the disciplines has manifested itself in theories about knowledge structures and language use (see section 2.2). The natural sciences have been described as having a hierarchical knowledge structure. This structure builds on and integrates knowledge in a pyramid fashion, building on general

propositions and theories to construct new knowledge (Bernstein, 1999). From this perspective, Kuteeva & Airey (2012), as well as Bolton & Kuteeva (2012) and Jensen et al. (2009), report that lecturers who teach in these structures tend to be more positive toward EMI compared to those who teach in the soft disciplines. As is apparent from Jon and Jacob's statements, the results reported in this study are consistent with these previous findings. As mentioned above, the participants in this study describe English to be the language of science, and the language they relate strongly to their own disciplines.

However, in relation to their use of English, the participants tend to comment specifically on the domain specific language. In general, when considering aspects of their personal identity or professional identity, they underplay their limitations in general linguistic proficiency, for example searching for general or academic vocabulary, basic grammatical errors, or pronunciation issues. This finding echoes the findings of Pecorari et al. (2011). In their survey of Swedish academics, they found a general tendency for EMI lecturers to place greater importance on domain specific terminology than on general English vocabulary. Although these findings ran across domains, they reported that the emphasis differed between disciplines. For example, in law, 36% said that terminology was important compared to 34% for general vocabulary, while in the natural sciences 71% placed importance on domain specific terminology compared to 45% for general vocabulary. This mirrors (Chung & Nation, 2003) findings from their earlier comparative investigation that found a significant difference in the use of domain specific terminology in anatomy compared to applied linguistics texts.

Thus, for this population in their community of practice, teacher identity is supported by a level of accuracy in relation to domain specific language. This links to one's disciplinary content knowledge and subject specific expertise. The structure of the discipline, in this case, the natural sciences, appears to determine their relationship with the discourse.

> *Ooh, my grammar is so awful that it is embarrassing, and I just can't do anything about it. Sometimes in my head I am saying, 'is, are? But it isn't a big problem. When this happens and I get stuck, I can just get on with it. I just think as long as the domain specific terms are OK, I am fine. (Bodil; interview)*

They do not feel the need to push themselves to improve general proficiency in their L2. The way they use language in their domain community dictates this relationship. For Jon, it is not a question of accurate use of Danish or English. Instead, Jon advocates a domain specific proficiency, much in line with the convictions of ELF.

> *It has been used as an argument, many times, that they have a professional education, therefore they should be able to speak in Danish. However, my counter-argument to that would be that they don't learn how to speak Danish or English here. Or they don't speak Danish or English here. They speak XX here. (Jon; interview)*

At the end of the day, it is about teaching the disciplinary content, and the language is secondary as long as the domain specific vocabulary is in place.

Thus, from the data it appears that while the participants openly concede to weaknesses in their oral English production, their reaction to these language problems tends to follow a three step plan. First of all, the lecturers appear to acknowledge and accept the language weaknesses that have been identified in their oral production, e.g. pronunciation, grammatical accuracy, word choice, etc. Next, the lecturers claim that they do not really care that much about particular aspects of accuracy in their production. They are willing to accept these aspects of their language proficiency. And finally, the lecturers find that with experience, they can rely on compensation strategies, i.e., increased use of visuals when lecturing, more detailed PowerPoint slides, asking students for assistance in finding accurate word choice, etc., to overcome any problems that might arise that can lead to a breakdown in communication. With this three step approach in place, and a strong sense of their professional identity (expertise areas), the lecturers do not view the weaknesses in their English proficiency to be a problem and they move on.

5.3.2. Perceptions of Current L2 Proficiency

A second reason lecturers are willing to discount their own language related weaknesses may be related to their personal opinions of their current L2 proficiency for teaching EMI. I believe that, for this population, the lecturers' prior success in the EMI classroom has confirmed for each of them that they have the necessary language skills for teaching. However, I also contend that the results from the language proficiency test they each took may have also played a role in the participants' ultimate reflections about their teacher identity in their L2.

Compared to other recent EMI studies involving the lecturers, a unique aspect about this study is that all the participants had been assessed for English proficiency for teaching at UCPH prior to data collection. A participant selection criterion was a minimum result of '3'

on the TOEPAS, the UCPH in-house assessment test. Nine of the 10 participants received a '3' as an overall result: proficiency certified to teach EMI graduate level courses at the University of Copenhagen. Given this credential, I began to consider if successful certification could have altered the responses of these lecturers involved in this study. Reflecting back on the case study informant in Westbrook and Henriksen (2011), we can see how the acknowledgement of her language proficiency by an external source, her language teacher, provided her with a greater sense of self-perceived proficiency for teaching her subject in English. This may also have been the case for my informants because of successful certification results on the TOEPAS.

The university management team at UCPH introduced language certification testing as a quality assurance measure. They wanted to ensure that the level of English of those teaching in the elite COME programs would not negatively affect the quality of the teaching. When the Faculty of Life Sciences picked up on the concept of testing for quality assurance, they mandated a language testing policy for lecturers with years of teaching and research experience in both their L1 and L2. The in-house test implemented for this purpose, the Test of Oral English Proficiency for Academic Staff (TOEPAS), focuses directly on oral proficiency related particularly to lecturing and interacting with students. Along with an overall assessment, the stakeholders, involved in the original decision to implement the testing program, wanted to be sure that test-takers received some detailed information about their proficiency level, as well as feedback about the kind of language training they needed, if necessary. The interest here was to provide feedback for remedial purposes, for those with weaknesses. There was little discussion about possible positive affective results, i.e., positive (or beneficial) washback,[26] of such a test. I believe, however, in a study such as this, positive washback from the testing program may play a meaningful role.

As noted throughout this document, there is a general agreement that university lecturers should have a minimum proficiency in English of C1 on the CEFR (Klaassen & Bos, 2010). The TOEPAS, a performance-based language proficiency test developed for assessing

[26] Washback (or backwash) generally refers to the influence of testing on teaching and learning (Bailey, 1996, p. 257).

whether university lecturers have sufficient oral proficiency for coping with the communicative demands of English-medium instruction at UCPH, is a skills based test. Examinees who received a result of '3' are certified to teach graduate level courses at UCPH. This level, '3', has a rough equivalence to a C1 level on the CEFR (Kling & Stæhr, 2012). To be selected for this study, the participants all had received a result of at least '3' on the TOEPAS. This suggests that they all have the minimum language proficiency necessary to teach. However, along with the overall result, a '3' comes with a caveat; those who receive a ''3' also receive feedback that includes a profile of linguistic weaknesses (i.e., errors) and suggestions regarding areas for development and improvement. Regardless of suggestions for improvement, the TOEPAS result of the participants provides a baseline indication of proficiency that fulfills the minimal requirements of proficiency, or in other words, knowledge of English language use in this context. From the participants' responses to the interview questions directly related to their TOEPAS experience, in particular about their results and the feedback they received, it became clear that the most important element was the overall result, i.e., 'certified' or 'not certified.' In some cases, the participants rejected the detailed feedback, claiming it was too native speaker normed:

> *The focus was too much on the grammar. I didn't want to hear about the problems with the mechanics. I knew they existed, but I don't think they have any influence on my teaching. I am not teaching English. That is how I interpreted the feedback. (Thomas; interview)*

Or, like Nicholas, they did not pay much attention to the detailed feedback at all, "*No. I mean, but honestly, I have never read the comments in detail*" *(Nicholas; interview).*[27] This confirms Dimova's (2012) findings from her conversations with other TOEPAS examinees. For the most part, the participants in this study claim that the results of this test confirm what they already knew about their own proficiency. However, I would argue that the results from the TOEPAS, in fact, affirmed a level of proficiency necessary for the participants to maintain their concept of teacher identity in this context. Having their English "certified" on

[27] The participants were aware of my employment at CIP and my role on the test development team. One could argue that my position as one of the TOEPAS examiners may also have influenced the participants' reaction to the test. However, as can be seen from the quotes above, the comments in the data also reflect direct critique of the testing procedure.

the TOEPAS, regardless of the overall result, may in itself be a factor (i.e., a type of positive washback) that allows the participants to claim confidence, lack of embarrassment, and/or lack of concern for isolated areas of weakness in proficiency. By having their L2 skills, or L2 knowledge and literacy for teaching, acknowledged by an external team of English language experts, they establish an element of their professional expertise, or, in other words, a component of what they defined as their teacher identity. Regardless of the level of certification, having their expertise acknowledged confirms the participants' teacher identity.

5.4. Development of Minimum Knowledge Base for Teachers in an EMI Context

The results of an oral proficiency test such as the TOEPAS provides some insight into the level of L2 oral proficiency. However, these types of proficiency test results do not provide insights into any other aspects of knowledge expertise, as defined by the participants. This is an area of weakness of interpreting the TOEPAS result when considering the interplay between proficiency and teaching in the English-medium classroom, in particular in relation to one's teacher identity. As Elder (2001) points out, teaching proficiency includes language competence as well as pedagogical competence. The proficiency test results, such as those on the TOEPAS, only focus on language competence. But we can see from the discussion above, the participants require a range of inseparable competences in a real-life teaching situation. There is a strong interplay between language skills and teaching skills. By interviewing lecturers with minimum 'certified' TOEPAS proficiency, it seems reasonable to assume that some lecturers have stronger 'expertise' in other knowledge areas compared to other lecturers, and that they can compensate for lack of *L2 language and literacy* through this other *knowledge expertise,* and vice versa. This appears to be supported by the research findings in regard to international teaching assistants (ITA) at universities in the United States. For example, Bailey (1984) found that international teaching assistants (ITAs) could compensate for language problems through interpersonal and pedagogic skills. Likewise, Vinke (1995) notes that in her study experienced lecturers were more likely to be successful in the L2 classroom.

In the late 1980s, when Shulman argued for the development of pedagogical content knowledge (PCK) for successful comprehensible teaching, university classrooms were

essentially populated by a local, homogenous group of people. Given the limitations in international education at the time, Schulman's list of minimum list of knowledge bases appears appropriate for a particular time period and context. In 1987, Shulman's list included:

- Content knowledge;
- General pedagogical knowledge;
- Curricular knowledge;
- Pedagogical content knowledge;
- Knowledge of learners and their characteristics;
- Knowledge of educational contexts;
- Knowledge of educational ends, purposes, and values, and their philosophical and historical grounds (Shulman, 1987, p. 8)

While the knowledge bases listed here are still valid today, there has been limited discussion over the past 30 years in keeping up with the times. The internationalized university setting of this decade presents new challenges for the teachers, and increases the need for additional knowledge bases. Given the increasingly more diverse student population in EMI courses, multicultural knowledge, and language and literacy skills (of both students and teachers) come into play. A lack of sufficient expertise of these knowledge bases may make it difficult for lecturers to disseminate their disciplinary content knowledge, because they lack the skills to transfer their pedagogical content knowledge as well as their general pedagogical knowledge to the EMI context. Moreover, insufficient knowledge or misunderstandings about the educational expectations, and cultural backgrounds of the students who often come from a range of different linguistic and cultural backgrounds can affect teachers´ perceptions of themselves and their teacher identity.

Building on Shulman's (1987) minimum list of knowledge bases listed above, I propose the inclusion of two additional knowledge bases, namely 1) multicultural knowledge, and 2) language and literacy knowledge, in both a teacher's L1 and L2. Figure 5.2 illustrates the various baseline knowledge types for classroom teaching and student comprehension necessary for EMI teaching.

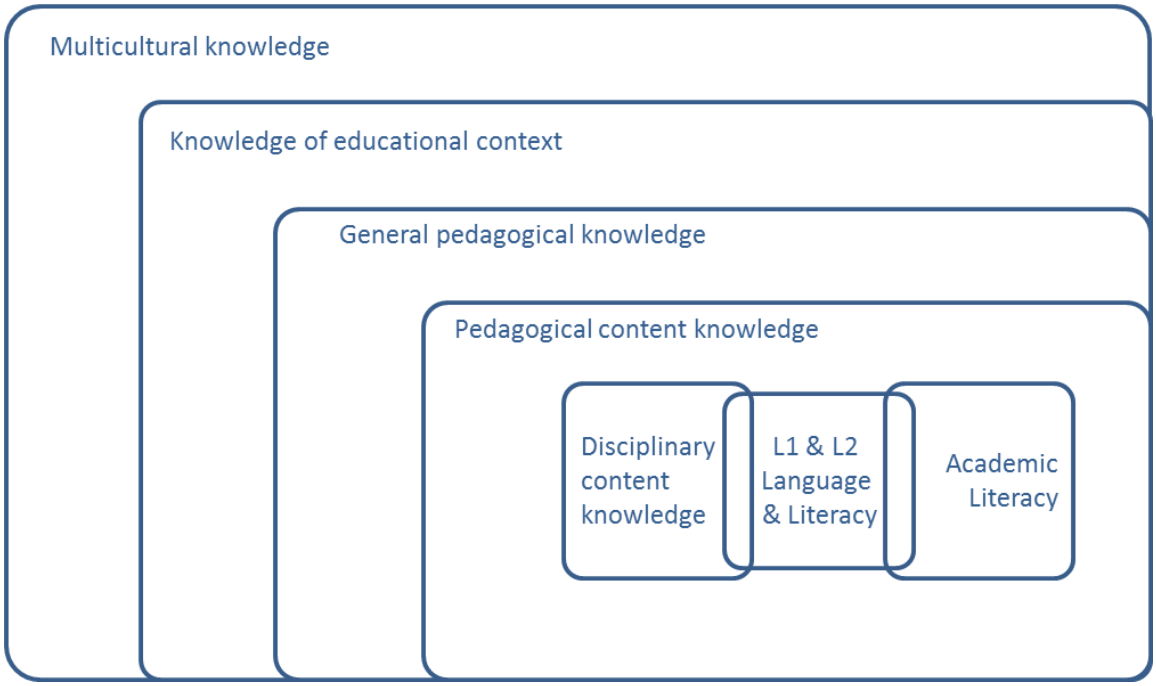

Figure 5.2 Minimum Knowledge Base for EMI Teaching

Figure 5.2 shows the types of knowledge Shulman suggests, with the inclusion of the additional knowledge types. In the outer layer, multicultural knowledge is added to the picture. This is an element that was not on the radar in the 1980s. Since EMI is generally, though not always, defined as a multicultural event, [28] this type of knowledge becomes an essential, overarching requirement for success in the classroom today. The ability to understand how one's students perceive their educational environment has been noted in several EMI findings (Hellekjær, 2007; Jakobsen, 2010; Tange, 2010), including this study. The next layers of knowledge in the diagram mirror those on Schulman's list. Knowledge of one's own educational context allows teachers to compare and contrast their experiences with their students. In the EMI context, however, this knowledge must be made explicit. Too often this knowledge remains tacit, preventing teachers from understanding breakdown in

[28] It is not uncommon for an EMI course to be taught by a Danish L1 lecturer to a group of Scandinavian L1 students who all understand Danish.

communication when it occurs at the local level. This can be particularly dangerous given the difference in education culture from not only one country to the next, but simply from one institution to the next. Inger expresses her own personal experiences developing an awareness of this type of knowledge:

> *Of course I am aware. But there was this one time, there was this Chinese guy I was thinking of when I was talking about this village that was far out in China. And I noticed the first time he came here, he just came in – and my course is usually the first they have to participate in. So I am the first encounter with a Danish teacher. And he was sitting there in the back. And he was just looking like this, and then he came to me after some time, after different lectures, and he said that he had never experienced the way of lecturing like this. And he thought it was wonderful, because in China they had to learn by heart. And was ahhhh! And that was a nice experience. But, of course, I am aware that it is very different but I think it is also one of the most important things that we have to teach people from China or from Africa. (Inger; pilot interview)*

Inger's comment speaks directly to a self-awareness of the local educational context. She notes the importance of teaching students from other educational contexts, in this particular case international students, the rules of the game.

As Schulman suggests, a teacher must also continuously develop general pedagogic knowledge[29] as well as pedagogic content knowledge[30] for successful comprehension transfer of disciplinary content knowledge to the students. This aspect of in-service training and professional development is something that the participants in this study put great stock in. These are mentioned repeatedly in the data. The participants want to continuously learn more about didactic practices and tools that can help them reach the students. Therefore, these two types of knowledge are included in the model.

At the center of the diagram are three linked types of knowledge. Two of the three types of knowledge in this box reflect aspects noted by Schulman above. However, given the

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[29] General pedagogical knowledge – "the broad principles and strategies of classroom management and organization that appear to transcend subject matter" (Shulman, 1987, p. 8)

[30] Pedagogical content knowledge – "it represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction" (Shulman, 1987, p. 8).

discussion of minimum language proficiency needs for teachers, I propose adding the third type of knowledge, namely the knowledge of language and literacy, to this type of knowledge for comprehensive teaching. The three types of knowledge are thus: 1) disciplinary content knowledge, 2) general academic literacy, and 3) L1 & L2 language and literacy.

The first element, *disciplinary content knowledge*, what Shulman referred to as content knowledge, comprises the domain specific expertise that allows identification with an academic discipline, and tends to describe in the most straightforward fashion one's discipline, e.g., I am a chemist. It is this element that is most prominent in the minds of the participants when they describe their expertise. For example, Elias identifies with others in his discipline: *"… primarily an XX and as a user of XX. So I have that as an identity. And I have my expertise… (Elias, pilot interview).*

The second element, academic literacy, is often taken for granted, but is no less vital. Academic literacy refers to the general and specific knowledge (expertise) about academic norms and expectations in higher education. This type of knowledge can also be linked to aspects of, for example, Schulman's knowledge of educational ends, purposes, and values, and their philosophical and historical grounds. This knowledge includes the required disciplinary tools of the trade, and can include academic language. It extends beyond theoretical content knowledge and provides the bedrock for an academic career – it allows the chemist to also be a scholar and a mentor. For example, in his reflections, Jacob refers to this type of knowledge as his 'broad scientific identity.'

> *So this could apply about the subject, but another thing is that by talking to them, that I am knowledgeable about networks and ways to help them. This is more the broad scientific identity that basically, yeah, I know people around the world, some, I try to stimulate people not be afraid. Also for their reports – I say, come on, there is an email here, write to them. 'Can I do that?' – yeah, people like us love that … and if the person doesn't reply it could be because the person is busy or just not that open. (Jacob; interview)*

Jacob acknowledges that his expertise goes beyond his disciplinary knowledge. He has more to offer his students than just theories and concepts. Jacob can offer his students insight into the academy – an insight that also includes knowledge of relationships and professional networks. He is an expert academic and he can share this knowledge through his message to his students.

The third element, L1 and L2 language and literacy, comprises proficiency of the language and discourse for the teaching event. Here, I refer to expertise in how to manipulate language for teaching and instruction for ease of comprehension. One could argue that this element falls under pedagogic knowledge. However, in this case I am not referring to general principles of language for presentation, for example, the awareness of the need for cohesive devices in a lecture. This is proficiency of language that incorporates aspects of structural accuracy, breadth of vocabulary (including domain specific-, academic-, and general vocabulary), pronunciation, and fluency.

It is important, however, to discriminate this knowledge of language and literacy from what Airey (2009) refers to as disciplinary discourse. In his focus on the teaching and learning of science, in particular in the EMI context, Airey defines disciplinary discourse as "representations, tools and activities" (p. 45) of a discipline that are made up of a broad range of forms, including, e.g., spoken and written language, mathematics, gesture, images, tools of all sorts, and activities. Airey discusses the need for the development of bilingual scientific literacy, or scientific literacy in two languages. While I agree with the need to develop discipline specific literacy, I contend that the intertwined elements of the center box in diagram 5.2 go beyond a specific disciplinary discourse. The modes Airey describes, including domain specific jargon and collocations, are elements of disciplinary content knowledge. The language and literacy knowledge I am suggesting here extends beyond specific discipline specific subjects. As illustrated in Figure 5.2, the breadth of this knowledge also overlaps with aspects of disciplinary content knowledge and academic literacy. As Airey suggests, implicit in disciplinary content knowledge is the ability to manipulate domain specific language and jargon. However, the ability to use academic language across the four skills, in regard to academic literacy, is equally critical. There tends to be an assumption that lecturers possess this type of knowledge in the L1. In recent years, increased focus on this element in EMI has stimulated interest in lecturers' L2 proficiency and abilities.

As noted in Chapter 4, the comments of the participants in this study show that the limitations of lecturers' language are usually not domain specific. On the contrary, the lecturers, for the most part, feel secure about their domain terminology. For example, Bodil and Lise openly acknowledge L2 weaknesses in overall proficiency, but they are confident regarding about their domain content language:

> *Ooh, my grammar is so awful that it is embarrassing, and I just can't do anything about it. Sometimes in my head I am saying, 'is, are? But it isn't a big problem. When this happens and I get stuck, I can just get on with it. I just think, I as long as the domain specific terms are OK, I am fine. (Bodil; interview)*

and

> *so it is actually much easier for me talk about science in English. When I am sitting at a dinner party and have to talk about a lot of other things, then my problems come up, because it is not part of my professional life. (Lise; interview)*

The participants openly recognize that challenges exist in the L2 in the form of weaknesses in fluency, grammatical accuracy, pronunciation, and general and academic vocabulary. As noted above, this finding is consistent with previous EMI studies (Hellekjær, 2007; Tange, 2010).

You cannot teach without having language. Teachers must have sufficient language and literacy skills to understand questions and comments, and respond appropriately and effectively. They must be able to deal with unclear questions or misunderstandings when necessary, for example using comprehension checks, clarification requests, and confirmation checks (Kling & Stæhr, 2012), without loss of face for the parties involved. As Jon states, the need for these skills can arise in both the L1 and L2.

> *If there is a word I don't understand, I will usually ask him to rephrase it anyway. But that goes for whether it is foreigners, native English speakers, Danish speakers, sometimes they need to rephrase what they ask. (Jon; interview)*

In general, there needs to be a minimum knowledge of language and literacy skills for teaching. In EMI, the new minimum involves the expertise in the teachers' L1 and/or L2.

Klaassen & Bos (2010) argue that teachers need to have a minimum proficiency; they need to have the code at a certain level, because part of their professional expertise is the ability to present coherent and cohesive lessons using accurate and precise language. Still the lecturers feel confident without living up to native speaker norms:

> *I think that it is a very positive thing because it is also a way to engage the students. To tell them that 'I am not an expert here' It doesn't change my identity. Everybody knows that I am not a NS so, no, no, I often use that almost as an educational tool. (Thomas; interview)*

For an experienced lecturer like Thomas, his language *flaws* make him human and perhaps more approachable as a teacher. His *proficiency limitations* provide him with a tool for

relating to and engaging with the students. This value set falls in line with the philosophy of the English as a lingua franca (ELF) community. As ELF lecturers, the participants accept and acknowledge their personal ways of using English as NNSs of the language. They use English as a lingua franca, as defined by the ELF research community, in their classes with their students. They do not worry about prescriptive rules of the language as a medium of instruction, but focus more on course content and communication. In doing so, they can focus less on the language and literacy perfection of their L2.

Overall, for teaching EMI, the combination of all the elements of their knowledge base (the entire diagram), in conjunction with their teaching experience, provides teachers with the minimum tool base that they need to maintain the credibility, or authenticity, that Preisler (2009) describes, which is developed through one's L1 teaching experience. With these types of knowledge in hand, lecturers can address the elements of teaching that the participants in this study claim to be essential – to be the good teacher – the interactive teacher.

5.5. Teacher Cognition Research

Although the findings of this study lend insights related to teacher identity and EMI, I also believe it is important to address in this section the particular perceptions about teacher cognitions that characterize teacher identity in this domain. While previous attitudinal studies and surveys shed light on the challenges teachers perceive in a new context, i.e., EMI, a global analysis of the study provides a broader description of the concept of teacher identity and the components that define it. Overall, teacher cognition has been defined as pre- or in-service teachers' self-reflections, beliefs, and knowledge about teaching, and / or awareness of situation specific strategies for classroom teaching. Borg (2006) characterizes the features of teacher cognition as "an often tacit, personally-held, practical system of mental constructs held by teachers which are dynamic, i.e., defined and redefined on the basis of educational and professional experiences throughout teachers' lives" (p. 35).The composition of the definition of teacher identity described in section 5.2 is similar to the systems found in other teacher cognition studies. The model of teacher identity draws on deep seeded beliefs and theories of the participants of this study. Figure 5.1 presents a model that is hierarchical, complex, and dynamic. These are features that have been linked to previous teacher cognition findings (Borg, 2003; Feryok, 2010).

To begin with, the construct of teacher identity presented here is hierarchical. Although intertwined, the multifaceted elements of the construct can be compartmentalized and labeled. Within these multifaceted elements, there are certain aspects that carry more weight than others. For example, the construct has a core, namely, expertise. This is particularly apparent in, for example, the natural sciences. Without specific knowledge expertise, such as domain content knowledge or pedagogic content knowledge, the rest of the cognition model would collapse. The core element is what makes teacher identity unique. However, it is also negotiable and complex. This complexity leads to a dynamic nature. Cognitions shift with the context, and this allows for flexibility and change.

For example, the complexity of these cognitions is apparent in the participants' thoughts about their institutional identity. As discussed above, in addition to their professional identity and personal identity, they recognize and acknowledge institutional identity as an element of their overall teacher identity. However, they simultaneously express an ambivalent relationship to this aspect of their identity. In what may appear contradictory, the participants claim a desire to reject drawing this element of their identity in their teaching. Instead, they prefer to draw on other aspects of their identity. In doing so, the lecturers find alternative teaching methods to engage the students. For example, Jon declares quite clearly his rejection of his institutional identity:

> *I don't use my authority or I don't use my identity and I never, never, use my professor title to try to say, 'well, now because I am a professor - you do what I tell you.' I try to more use my expertise in saying, this is the way you should do it because…" (Jon; interview)*

The explicit nature of Jon's declaration supports Borg's notion of teachers as "active, thinking decision-makers who make instructional choices by drawing on complex, practically-oriented, personalized, and context-sensitive networks of knowledge, thoughts, and beliefs" (Borg, 2003, p. 81).

5.6. Reflections on Methodology

Although my analysis presented in Chapter 4 stems directly from the interview responses, data from the other methodological tools I used in this study provided a foundation for the participants to begin reflections on their relative positions as lecturers of EMI. As a study in

teacher cognition, it was important for me that the participants in this study understood that they would be requested to reflect on their teaching and themselves in this context. Therefore, already in my first contact with the lecturers, in the e-mail invitation to participate in the study, I gave a brief description of the study to explain that this was a teacher cognition study about EMI (see Appendix E).

I believe that the use of multiple data collection tools in this study helped to develop a stronger relationship with the participants that I could not have developed had I only utilized interviews. Multiple interactions with the participants set the tone for our meetings. Prior to each of the observations, the participants and I shared a series of emails, as well as the occasional phone call, to coordinate the date and time of the observation. I tried to arrive early for each observation so that I had a chance to chat informally with the participants before the students arrived. When we met, I often started our conversations in Danish so that they could confirm that I was integrated into the UCPH system and Danish culture. I also wanted them to know that they could express themselves freely in whichever language they felt most comfortable when we met. During the observation, I took notes about the classroom atmosphere and key features of the lectures. Following this, I transcribed the lectures, looking for points of interest for the stimulated recall (which took place two days later).

The observation provided me with two things. First, it gave me a chance to observe the participants teaching in a non-simulated setting. Here I could see how they interacted with their students, watch their teaching methods, and to listen to them teach in English. Second, observing the participants live provided a source with which to validate their TOEPAS results. Since the TOEPAS result is based on an assessed performance in a simulated testing situation, classroom observation allowed me to corroborate the assessment of the performance described on the TOEPAS feedback form. I found all 10 lecturers to fall well within the overall assessment they had received on the TOEPAS assessment scale. They are all qualified in terms of language proficiency to teach their courses.

Next, during the stimulated recall, I did not focus on their language use per se. Since these individuals had already had their language assessed through standardized testing, I had a preliminary idea of their proficiency for teaching in English. Instead, I believe the stimulated recall provided me with an opportunity to get the teachers to begin the reflective process. During this activity, I did ask them to reflect on instances of language hesitation or error. But I also asked them to reflect on several other aspects of their teaching such as didactic

practices, e.g., using the blackboard, student participation, etc. The stimulated recall procedure, using both the video recording and a transcript of the lecture the participant gave, allowed the participants a view into my data collection style. Since they were allowed to review the transcripts of their lecture, they could transparently see how I worked.

It was only first at the interview that I ultimately introduced the topic of 'identity' to the lecturers. Having been exposed to the participants' teaching and their reflections on their own in-class performances and decision making helped me to conduct the interviews on a more personal level. Although I stuck very closely to the interview schedule, being able to draw on previous conversations and revelations that had arisen during our two previous meetings was advantageous.

Lastly, while I was initially hesitant to use card sorting as an elicitation device, I believe the inclusion of this less commonly used tool assisted me in getting the participants to respond with more depth than a traditional interview would have. By asking the participants to respond to specific, isolated characteristics that had been drawn from their own input (from the observation or stimulated recall) the activity became more personalized and thus, perhaps more reflective.

CHAPTER 6:
Conclusion

In this chapter I present, first, a summary of the key findings of the research. This is followed by implications of the findings, as well as recommendations for future research. Finally, I conclude with a brief commentary about the project overall.

6.1 Summary of the Study

This collective case study investigated how experienced lecturers in higher education define their teacher identity, and, subsequently, how they describe their perceptions about the effect on that identity when shifting from Danish-medium instruction to English-medium instruction (EMI). The theoretical framework suggested a broad range of definitions of teacher professional identity. Those definitions used in the literature stemmed mostly from educational studies seeking best practice in of the development of a sense of professional identity among pre-service teachers, particularly at the primary and secondary school level. The point of departure for this study was the desire to investigate how experienced teachers of higher education define their teacher identity. In addition, this study sought to go beyond the current focus of EMI research on the attitudes of the stakeholders, student preparedness, and learning consequences of this shift on teaching and learning in the internationalized university. The analysis drew on input from the lecturers' comments and concerns related specifically to their underlying teacher cognitions about professional expertise, professional authority, and professional identity when teaching outside one's mother tongue in a multicultural, multilingual graduate setting in Denmark.

The data for this investigation was generated from input collected in 2011-2012 from full-time, tenured academics from the former Faculty of Life Sciences (LIFE) at the University of Copenhagen (UCPH). The participants in this study were Danish L1 speakers of English who had been certified on an internal proficiency test (TOEPAS) as having the necessary English language skills to cope with the communicative demands of graduate level teaching. For this descriptive study on teacher cognition, I used a qualitative design with a collective case study approach. To

consider the situation from multiple perspectives, I utilized triangulation of measures, conducting field research and collecting data through observation, stimulated recall, and semi- structured interviews, (including the use of two card sorting activities). I also drew on the participants' oral proficiency assessment results as a secondary data source. The data was analyzed through thematic analysis.

6.2 Findings

The results reported in this dissertation contribute to the quickly expanding body of research focused on the effect of increasing English-language teaching university education in non-Anglosphere countries. This study was motivated by an increasing discussion of the challenges of English medium instruction confronting teachers whom English is a second language. The findings fall into three general categories: 1) reflections on teacher cognition studies; 2) a model of teacher identity for lecturers in the natural sciences, and 3) evidence that NNS lecturers of natural science EMI do not find that the identified challenges teaching in a foreign language affect their personal sense of teacher identify.

To begin with, at a macro level, the study demonstrates how difficult it is to gain insight into teacher identity. One of the main challenges in conducting this study was to draw out previously unconscious thoughts from experienced, university lecturers about their teacher identity, specifically when teaching in a foreign language. In requesting the lecturers to reflect on themselves as teachers, I was asking them to look inwardly and to discuss aspects about knowledge that they may or may not have been consciously aware of while they were teaching. This type of knowledge is often tacit and difficult to describe. With the use of the semi-structured interviews, including the card sorting activities, devised from input gathered from the stimulated recall sessions, I was able to elicit participant responses of great specificity and depth. The participants were able to speak frankly about an aspect of their teaching that has received little attention, e.g., their teacher identity. For experienced lecturers, reflection on teaching is what constitutes a central point of in-service training and development. In his extensive work in the field of reflective practice, Farrell (2008) describes reflective practice such as this as the act of consciously taking on the role of reflective practitioner. Teachers must "subject their own beliefs about teaching and learning to critical analysis, take full responsibility for their actions in the classroom, and continue to improve their

teaching practice" (p. 1). This study offered the participants an opportunity to move beyond their daily rituals and gain insights about their teaching. The reflections of the participants in this study provide the reader with a glimpse into the beliefs and theories that the lecturers have about themselves as teachers. Throughout the data collection process, it became apparent that allowing experienced teachers to examine their own theories about concepts such as knowledge, expertise, and identity, also gave them the opportunity to reflect and gain insight into their own teaching practices, which have been developed over time through both apprenticeship of observation and experience. In addition, the results presented here support the experimental nature of teacher cognition studies. The findings give the research community the opportunity to build theory from this teacher cognition paradigm. The findings also suggest that contextual factors, e.g., disciplinary agenda, may play a role in reflections related to emergent areas such EMI research.

Next, the data suggests that an overall *teacher identity* is comprised of components categorized under the headings of *professional identity, personal identity, and institutional identity*. The participants' statements present their descriptions and cognitions regarding three specific types of identity, and how they ultimately interrelate to form their overall teacher identity. The lecturers describe their professional identity as a combination of the possession of and external recognition of expertise in combination of knowledge types, i.e., their subject content knowledge, their pedagogic knowledge, and their pedagogic content knowledge. Their personal identity includes traits they possess that play a role in how they approach teaching and interacting with students. For some of the lecturers, this means being a teacher who is, e.g., spontaneous, humorous, or effervescent. For others, personal identity leads the lecturers to teach using other traits that suit them best. The third component of teacher identity is the lecturers' institutional identity. This sense of institutional identity provides the lecturers with membership into specific communities of practice. Within these communities, they gain both a sense of not only their authority in the classroom, but how they can best use, or not use, this authority in this multicultural setting.

Lastly, at a more micro level, through reflections about their global definition of teacher identity, the participants in this study described how they feel about themselves in their role as foreign language users in a multilingual, multicultural context. Through a range of examples, the lecturers who participated in this investigation candidly describe their perceived English proficiency limitations and those aspects of L2 language use that challenge them when they teach. These challenges include aspects such as searching for general and academic vocabulary, questions related

to pronunciation of terminology and general vocabulary, insecurities about grammar usage, etc. The lecturers also describe how their teaching has had to change, not necessarily only because of language, but also because of the diversity of their students. This diversity includes different perceptions of cultural (both social and educational), academic literacy, domain specific knowledge preparedness, not to mention linguistic proficiency levels in English. For compensatory strategies, the lecturers find themselves drawing on their pedagogic knowledge. To accommodate for the diversity, the lecturers report that they rely on more rephrasing and summarizing in their lectures in English compared to Danish. They also report using more visuals in their EMI lectures, in the form of PowerPoint presentations or diagrams on the blackboard. For those lacking in vocabulary, strategies such as the use of Wiki notes for finding correct phrasing for explanations and diagrams, or calling on students in class to serve as translators, are also noted by the lecturers. However, irrespective of these challenges and the need to develop and use compensatory strategies, the participants in this study unanimously claim that teaching through a FL in an EMI setting does not affect their self-perceived teacher identity.

6.3 Implications

So what are the implications of these findings? To begin with, regardless of the finding here that the participants do not believe that the shift from teaching L1 content courses to teaching EMI courses affects their teacher identity, the lecturers confirm the challenges described in previous EMI research. These challenges, related to weaknesses in language proficiency and/or appropriate approaches to meeting the students' diverse needs are real. As such, universities need to acknowledge these challenges, and develop and implement training programs to support the advancement of the minimum knowledge bases needed for comprehensible teaching (see section 5.4). These training programs should address elements of culture, both from an international and domestic perspective, and language. First, university lecturers needs to become more aware of multicultural aspects of education, both in regard to the cultures (e.g., social, academic, etc.) their international students bring to the EMI classrooms, as well as how the educational culture at home is interpreted and understood by these students. Second, language training must be available for those lecturers who have not yet acquired sufficient language proficiency needed for teaching in English. Less experienced lecturers entering into EMI must be made aware of the challenges they

face when entering into the EMI context. While the participants in this study claim that they can cope with their current level of proficiency, they had all proven themselves through language testing prior to meeting with me. Establishment of both an awareness of and a proficiency in this threshold level of language is vital for success.

The results reported here also have implications on the role and use of language proficiency testing for academic staff in higher education. The implementation of a testing scheme such as the TOEPAS at LIFE was a top down decision made as a quality control measure. In addition, it was also to serve as an advocacy tool to support lecturers in need to competency development. First, as a quality control measure, the results of the test could be used to confirm that the level of English used by the teachers of this faculty was on par with comparable faculties at other universities teaching through the medium of English. Second, the test results and subsequent formative feedback the teachers received were also devised to serve as a needs analysis tool for identifying strengths and weaknesses of the teachers' proficiency, as well as a training tool. Once areas of weakness were identified, teachers' needs could be addressed through competence development training. However, the possible positive washback effect inferred from the findings of this study suggest that the testing of language proficiency of the teaching staff may actually support their self-perceived teacher identity. As noted above, the findings in this study indicate that these participants define an element of the teacher identity, their professional identity, as the acknowledgement by others of areas of expertise. The affective consequences of this type of external approval was evident in, for example, Westbrook and Henriksen (2011). The informant in this study voluntarily entered into language training due to her own insecurities about her linguistic proficiency. Once she was assessed and could see evidence of her own performance, she could accept that she had the knowledge of L2 language and literacy that allowed her to authenticate her teacher identity. Receiving, for example, a result of '3' or higher on the TOEPAS provides such an external stamp of approval, an external acknowledgement, that one's language skills are good enough for the job at hand. The results provide a sense of achievement and security. Thus, one could argue for continued language proficiency assessment as a means of supporting teacher identity.

A third implication for investment at universities goes back to the question of responsibility in the ever changing internationalizing university. Throughout the discussion, there is a running theme that questions whose responsibility it is to address the diverse needs of the students in the EMI context. According to the participants, some international students come to Danish universities

without the pre-requisite tools needed to be successful. Comments from the participants repeatedly note frustrations and concerns as to how to best train students so that they can acquire these tools as quickly as possible, and succeed academically in this Danish educational environment. While there is an appreciation for the need to develop student awareness and make the differences of educational cultures explicit, the question still remains: whose job is it to train the students? Content lecturers on their own may not be fully equipped, or have the time or desire to take on this responsibility. Training programs that involve the expertise of these EMI content teachers, in cooperation with language teachers and international office staff should be devised to assist these lecturers in assisting the students, while simultaneously maintaining the lecturers' teacher identity. As an extension of this challenge, one must also ask, whose responsibility is it to make sure that the teachers also have the minimum knowledge base for teaching EMI. If universities are going to recruit both international students and teaching staff under the guise of internationalization and globalization, then university policies must begin to address these questions.

6.4 Suggestions for Further Research

Using this study as a springboard, further research studies on teacher identity in the EMI context might investigate:

- Correlation between participants' reflection on good teaching and actual performances
  In this study, the participants describe their ideal of a good teacher and describe the type of strategies they use in the multilingual multicultural classroom to meet those ideals. Further research could consider if data collected in this study from the observation and stimulate recall support the participants 'ideal' and claims in their classroom performance.

- The role of language proficiency on perceptions of teacher identity: Since the question of proficiency level may have played a role in the cognitions of the participants in this study, it would be beneficial to investigate how participants in the same domain with lower levels of proficiency, e.g., TOEPAS level 2 or the equivalent, react to reflections about their use of English and their teacher identity.

- Application of teacher identity model to other disciplines: This study is linked directly to lecturers in the natural sciences. Further research should investigate if the model derived from these lecturers' input applies to other academic disciplines. This question of application is twofold. First, additional research is necessary to determine if there is agreement among lecturers in the soft disciplines that the model defines their perceptions of teacher identity. In other words, do lecturers in the humanities and/or the social sciences define their teacher identity in the same way? The second question follows up from the assumption that the model suits this population. Do lecturers from the soft disciplines find that the challenges related to teaching EMI courses that have been identified in both this study and previous research affect their perceived teacher identity?

- The role of teaching experience in relation to teacher identity: This study has shed light on the role experience plays on how the teachers define their teacher identity. From their responses, it became apparent that experience plays a role in the reflections of lecturers in maintaining the described elements of their teacher identity. Additional research is necessary to determine if less experienced NNS lecturers find that the challenges identified in using English as the language of instruction makes maintaining, or for that matter developing, a sense of teacher identity more difficult?

- The role of L1 educational experience and teaching experience: As EMI becomes more prevalent at all levels of instruction at universities around the world, more and more lecturers will find themselves teaching only in their second language. An additional twist to the scenario is that less experienced teachers entering the academic workforce may be coming directly from EMI programs. Such is the case described by participants in Airey's (2011) investigation of the experience with Swedish EMI lecturers. With the increase in EMI at post graduate levels across Europe, novice lecturers may find fewer and fewer opportunities to hone their skills in their first language.

- Student perceptions of lecturers' teacher identity: As the concept of teacher identity is considered reciprocal, further research in line with Jensen et al., (2011) could include investigation of student perceptions of EMI lecturers to find out if there is a correlation of perceptions.

- Card sorting activities as an elicitation tool for identity studies: While not a new data collection methodology, additional research is necessary to determine if the type of card sorting activities included in this study are the most appropriate for identity studies of this type. In addition, it is important to investigate if findings based on use of this tool replicate the findings of this study.

- Alternative elicitation tools for data collection: Since it is difficult to get insights into teacher cognitions, it could be useful to utilize conceptual mapping to expand the types of data in a study such as this. Drawing out reflections using these type of graphical tools for organizing and representing knowledge may lead to additional levels of reflection. In addition, the adding of think-aloud protocols could also provide greater insights.

6.5 Concluding Remarks

As is evident from the list above, this investigation opens the door for a variety of future research. The findings described above, in particular the declaration from these lectures of natural sciences that they do not feel that the transition to being an EMI lecturer has affected their own perceptions of their teacher identity contributes to the English-medium instruction research field. This contribution relates particularly to concerns currently being expressed at both universities and in the media about the challenges lecturers face as then make their transitions from traditional L1 content teaching to EMI.

In addition, the model of teacher identity resulting from this qualitative investigation of these EMI lecturers' reflections confirms what had been previously documented in identity research, namely that identity is dynamic, and that it is a reciprocal exchange between players. This finding stems directly from the lecturers' responses to stimuli during the interviews. The use of individual words and phrases drawn from the participants own input as prompts in the card sorting activities addressed a common weakness in these types of studies. In order to minimize imposing my pre-existing definitions of the terms used in the interview, throughout the data collection process , the participants were given the opportunity to independently interpret, reflect, and respond to a series of prompts in the card sorting activities generated from their own reflections to their teaching performance. Thus, I believe that a specific strength of the findings here is the contribution of the extension of a research method for attaining access to deeply rooted, tacit, intangible teacher

cognitions about teacher identity. The use prompts in the form of card sorting as an elicitation technique and data collection tool in this type of qualitative research reaped rich input. It would be interesting to see if this research method can hold up in other domains and at different levels of proficiency, including L1 speakers, in continued research about teacher identity.

Abstract

Rapid internationalization of European higher education has resulted in a considerable increase in the number of English-medium instruction (EMI) degree programs now implemented at all levels of instruction. While this change of medium provides increased academic opportunities for all university stakeholders, the use of English by non-native speakers for teaching and learning in non-Anglosphere countries necessitates consideration of the ramifications of EMI. This study was motivated by the growing discussion of the challenges of English-medium instruction confronting lecturers for whom English is a foreign language.

This case study investigated how 10 experienced lecturers in the natural sciences at the University of Copenhagen define their own *teacher identity*, and, their perceptions of any effects on their identity when shifting from Danish-medium instruction to English-medium instruction. This study utilized a multi-method approach to allow fuller access into the teachers' cognitions, and to overcome the weaknesses that arise from the use of self-report surveys to collect thoughts and perceptions. This approach comprised classroom observation of graduate level lectures, stimulated recall of these teaching events, and individual semi-structured interviews with the lecturers. The observations and stimulated recall served as a scaffold on which the interviews were built. In addition to questions directly focused on identity, the interviews also included two card sorting activities as elicitation devices. The analysis drew on the lecturers' comments and concerns related specifically to their underlying teacher cognitions about *professional expertise*, *professional authority*, and *professional identity* when teaching outside one's mother tongue in a multicultural, multilingual graduate setting.

The results provide: 1) a model of teacher identity for lecturers in the natural sciences, 2) evidence that experienced NNS lecturers of natural science EMI do not find that the identified challenges of teaching in a foreign language affect their personal sense of teacher identify, and 3) reflections on teacher cognition studies. The lecturers highlight teaching experience and pedagogic content knowledge as factors that are at the core of their teacher identity. While the findings here report that these lecturers express confidence and security in the EMI context, the results also confirm the instructional and linguistic challenges identified in previous EMI research. This suggests that university management need to acknowledge these challenges, and develop and implement both linguistic and pedagogic competence training programs to support the needs of less experienced EMI lecturers.

Resumé på dansk

Den stærkt øgede internationalisering af de europæiske videregående uddannelser har medført en væsentlig stigning i antallet af uddannelser på engelsk (EMI) på alle undervisningsniveauer. Skiftet fra dansksproget til engelsksproget undervisning styrker de akademiske muligheder for alle aktører i universitetsverdenen, men samtidig må man nøje overveje konsekvenserne af at engelsk bruges til undervisning og læring i lande hvor engelsk ikke er førstesproget. Denne afhandling er motiveret af den voksende debat om udfordringerne ved engelsksproget undervisning i de tilfælde hvor underviserne har engelsk som fremmedsprog.

Afhandlingens casestudie undersøger hvordan 10 erfarne undervisere inden for de naturvidenskabelige fagområder ved Københavns Universitet definerer deres egen underviseridentitet (*teacher identity*), og hvordan de forholder sig til konsekvenserne for deres underviseridentitet når undervisningssproget skifter fra dansk til engelsk. Undersøgelsen anvender en flerstrenget metodetilgang for at få mere dybdegående adgang til undervisernes overvejelser og tanker (*cognitions*), og for at imødegå svaghederne ved brugen af selvrapporterende undersøgelser af tanker og holdninger. Metodetilgangen indbefatter observation af undervisningen på kandidatkurser, stimulerede genkaldelser (*recall*) af undervisningen og individuelle semistrukturerede interviews med de 10 undervisere. Observationerne af undervisningen og de stimulerede genkaldelser har givet struktur til interviewene som udover spørgsmål der fokuserer på identitet, indeholder to eliciterende kortsorteringsaktiviteter. Analysen baserer sig på de kommentarer og betænkninger som underviserne fremsatte i interviewene angående deres grundlæggende overvejelser og tanker om at være underviser (*teacher cognitions*) i forhold til deres *faglige ekspertise*, *faglige autoritet* og *faglige identitet* når de underviser på et fremmedsprog i en flerkulturel og flersproglig højere uddannelseskontekst.

Resultaterne udfoldes i relation til tre overordnede temaer: 1) En model over underviseridentitet for undervisere inden for de naturvidenskabelige fagområder, 2) Dokumentation for at erfarne naturvidenskabsfaglige undervisere, der ikke har engelsk som deres førstesprog, men som underviser på engelsk, ikke finder, at de udfordringer, som opleves ved at undervise på et fremmedsprog, påvirker deres opfattelse af egen underviseridentitet, og 3) Refleksioner over *teacher cognition*-undersøgelser. Underviserne understreger at deres undervisningserfaring og pædagogiske indholdsviden understøtter og fastholder deres identitet som underviser.

Mens resultaterne her således viser at disse undervisere anser sig selv for at være trygge og sikre når de underviser på engelsk, bekræfter de samtidig de undervisningsmæssige og sproglige udfordringer som tidligere EMI-studier har påvist. Resultaterne peger således på at universitetsledelser er nødt til at anerkende disse udfordringer og udvikle og implementere både sproglig og pædagogisk kompetenceudvikling for at imødekomme behovene hos mindre erfarne undervisere der skal varetage engelsksproget undervisning.

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Appendices

Appendix A:	Post-Observation Stimulated Recall Protocol
Appendix B:	Semi-Structured Interview Schedule
Appendix C:	Card Sorting Activity 1 Prompts in English & Danish: Prompts listed alphabetically in English
Appendix D:	Card Sorting Activity 2 Prompts in English & Danish Prompts listed alphabetically in English
Appendix E:	Request for Participation in the Study: E-mail Text
Appendix F:	Participant Consent Form

Appendix A: Post-Observation Stimulated Recall Protocol

1. warm up
    a. parallel language use – discuss the use of English and Danish and the concept of parallel language use
    b. discuss initial impressions of lesson

2. directions

- *Now we are going to the watch the video of your teaching. I am interested in what you were thinking at the time you were lecturing. I observed your class, and could hear what you were saying, but I don't know what you were thinking. So, what I would like you to do is tell me what you were thinking. What was going on in your mind at the time you were speaking to the students.*

- *You can control the video using these buttons, here, on the computer. You can pause the video any time you want to. So, if you want to tell me something about what you were thinking, just press the pause button. If I have a question about what you were thinking, then I will push pause and ask you to speak to that part of the video.*
    - (revised from Mackey & Gass, 2005)

3. conduct stimulated recall

4. discuss follow-up interview and scheduling

Appendix B: Semi-Structured Interview Schedule

Material: mp3 recorder / digital camera / prompt cards

Follow up from stimulated recall:

"Now that I have had a chance to observe your teaching and listen to your comments about your teaching, I have some follow up questions I would like to ask you.

I would like to start with the following terms. Look at these 3 cards (place cards on the table):

- PROFESSIONAL IDENTITY
- PROFESSIONAL AUTHORITY
- PROFESSIONAL EXPERTISE
-

1 What do you these terms mean to you? / What do you think about when you see these terms?
2 Do you see these as separate concepts?
3 Are they different for you in when you teach in ENG/DK?
4 What is your personal definition of a good teacher?
5 How would you like to be perceived as a teacher?
6 Do you think your students perceive you differently in ENG/DK?

Bio data

OK – I have a few questions about your teaching experience

7 How many years have you been teaching? In DK? In ENG?
Have you taught abroad?
Have you taught in another foreign language other English?
8 Did you study abroad? In what language?
(Did you have EMI courses as a student?)
9 Has the teaching situation changed for you since you started your teaching career? In what way(s)?
10 Have you changed your teaching approach or in-class decision making process since you changed your language of instruction?

11 Do you think your own personal perceptions of
   - Professional identity
   - Professional authority
   - Professional expertise

have changed since you have been teaching in English?

Card Sorting

Card sorting activity 1

Shuffle cards

Give all the cards to the informant

a) *"Please read each card aloud one by one and then tell me whether or not you feel that the word applies to you when teaching in English* ***as compared to*** *teaching in Danish."*
b) *"Do you consider this to be a positive or negative characteristic?"*

(Ask informant to explain briefly 'why' if any card does apply or if a positive term does not apply.)

12 Are there any terms that are missing that you would like to include?
13 (looking at the piles …) Does this profile correlate to your definition of your own professional identity / professional authority / professional expertise?
14 Would these piles look different if you were describing yourself when teaching in Danish?

Card sorting activity 2: Teaching strategies

"On these cards are some teaching strategies that have been identified in the literature and which you will probably recognize."

15 Which of these teaching strategies have been most affected by change of language?
16 How do these relate to your definition of your own professional identity / professional authority / professional expertise when teaching in English?
17 Can you give me any explicit examples of differences in teaching strategies when teaching in English compared to Danish?
18 Does using English as the language of instruction affect you sense of authority or expertise in the classroom? How?
19 Can you give me any examples of teaching techniques you draw on to make up for any linguistic weakness that might occur when teaching in English?
20 Do you interact differently with your students from different countries? Different relationship with specific cultures?

21 Are there students from particular cultures that cause you stress or put demands on your professional authority/ identity / expertise?
   - Can you describe an experience?
   - How do you deal with this?

Place 'double reflection' prompt card on table:

In a recent study, a lecturer stated that she often found herself in a state of 'double reflection' – a situation where you find yourself reflecting on language -> feeling more self-conscious -> reflecting more -> becoming less fluent -> searching for words -> feeling nervous -> becoming more aware of mistakes -> trying to correct mistakes -> interrupting one's line of thinking -> going off topic.

22 Have you ever had this experience?

23 Have you ever experienced problems in class because you felt your English was not strong enough? What are your linguistic challenges?

24 Can you give me an example? What did/do you do?

25 Have you ever had a problem because you felt your student's English was not strong enough? What are their challenges? What did/do you do?

26 Do you find that you ever change your teaching style / language to meet the student population?

27 How do you feel about having native English speakers in your class?

28 Do you ever talk about issues related to EMI with your colleagues?
yes = What do you talk about?
   - no = why not?

Take out TOEPAS feedback form and go through general feedback with the informant. Follow this with the following questions:

29 What was your reaction

30 identity/authority/expertise when you teach in English in the multicultural classroom?

a. when you were told you had to register for an English test?
b. to the testing session itself?
c. the result you received?
d. the feedback?
e. did you watch your video?
f. Did you share the result with others in the department?
g. Did the experience (result and feedback) change the way you approach your teaching? In what way(s)?

31 Do you think you need additional training for competence development?

32 Is there anything else you would like to mention in relation to your personal professional identity/authority/expertise when you teach in English in the multicultural classroom?

Appendix C: Card Sorting Activity 1 Prompts in English & Danish:

Prompts listed alphabetically in English

English	Danish
• approachable	• *imødekommende*
• authoritative	• *autoritær*
• awkward	• *pinlig*
• confident	• *selvsikker*
• embarrassed	• *flov*
• effervescent	• *sprudlende*
• fumbling	• *famlende*
• humorous	• *humoristisk*
• improvisational	• *improviserende*
• inhibited	• *hæmmet*
• insecure	• *usikker*
• knowledgeable	• *vidende*
• nervous	• *nervøs*
• secure	• *tryg*
• spontaneous	• *spontan*
• stupid	• *dum*

Appendix D: Card Sorting Activity 2 Prompts in English & Danish

Prompts listed alphabetically in English

English	Danish
• accommodate for the students' language proficiency	• *tilpasse til de studerendes sprogfærdighed*
• emphasize important points	• *fremhæve vigtige punkter*
• engage in interaction with students	• *indgå i interaktion med de studerende*
• explain new terminology	• *forklare ny terminologi*
• gain contact with the students	• *skabe god kontakt med studerende*
• give an overview of a lecture and teaching goals	• *give overblik over foredrag & mål*
• give concrete examples	• *give konkrete eksempler*
• give Danish cultural references	• *give danske kultur referencer*
• give detailed instructions	• *give detaljeret instruktioner*
• guide students' self-study	• *guide studerendes selvstudium*
• relate lecture to students' background	• *relater indhold til studerendes forhåndsviden*
• stimulate students to ask questions	• *stimulere studerende til at still spørgsmål*
• summarize sections of a lecture	• *opsummere mellem foredrags sektioner*
• use appropriate tempo	• *tilpasse taletempo*

Appendix E: Request for Participation in the Study:

E-mail text

Dear XX,

I am writing to you to request your assistance in my PhD research focused on the implications of teaching English-medium instruction. I have chosen to focus on those issues which have implications for teachers, in particular

I intend to examine how successful practices in teaching behavior in English-medium instruction (EMI) courses in the Faculty of Life Sciences (LIFE) can be described by classroom teachers. I hope to reveal trends in teacher beliefs and practices, both linguistic and didactic, used for teaching multicultural and multilingual classroom by non-native English speakers.

Over the course of the next few months, I will collect qualitative data by means of teaching observations and interviews with teachers who teach their subject through the medium of English in the Faculty of Life Sciences to a multilingual, multinational study population. This project has been approved by Grete Bertelsen, Vice Dean, LIFE.

Thus, I am contacting you to find out if you would be interested and available to participate in my study. Baseline requirements for participation are:

- You are teaching an English-medium course that I can observe (preferably this semester or fall semester 2011)
- You have experience teaching in both English and Danish

For data collection, my project requires:

- a) Observation and video recording of you teaching a regularly scheduled class (1 lesson = ca. 45 minutes + set-up).
- b) Post-observation interview (conduction in Danish/English) scheduled as closely to the observation date as possible to watch video recording together (ca. 90 minutes)
- c) Semi-structured follow-up interview (ca. 90 minutes)

Please contact me (joyce@hum.ku.dk or tel: 25 32 37 76) if you are interested and available for this project. I look forward to hearing from you.

Sincerely,

Joyce Kling

****

Joyce Kling
ph.d.-studerende / PhD scholar

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FACULTY OF HUMANITIES
THE UNIVERSITY OF COPENHAGEN

Appendix F: Consent Form

CENTRE FOR INTERNATIONALISATION AND PARALLEL LANGUAGE USE

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Reflective Practices in English-medium instruction@ LIFE

PhD Research Project

Consent to Participate in Research

You are invited to participate in this study which analyzes issues of teacher cognition in relation to non-native English speaking instructors at the Faculty of Life Sciences (LIFE) who teach using English as the language of instruction. This form will describe the purpose and nature of the study and your rights as a participant in the study. Participation in this project has been approved by Grete Bertelsen, Vice Dean, Faculty of Life Sciences. The decision to participate or not is yours. If you decide to participate, please sign and date at the bottom of this page.

Project Description

The aim of this project is to investigate the relationship between effective English-medium teaching behavior and English language proficiency. In particular, the project focuses on issues of teacher cognition in relation to successful practices in teaching behavior in English-medium instruction (EMI) courses taught by NNSs in the Faculty of Life Sciences (LIFE) at the University of Copenhagen (UCPH). Approximately 15-20 lecturers will participate in this study.

The Centre is run jointly by the Department of English, Germanic and Romance Studies and the Department of Scandinavian Studies and Linguistics. Administratively, the Centre is placed within the Department of English, Germanic and Romance Studies.

You will be digitally videotaped teaching one of your regular classes conducted in English and will be asked to view and discuss this video with the researcher. In addition, you will be interviewed with respect to your reflections and attitudes about your performance as a lecturer teaching through a foreign language. All discussions with the researcher will be digitally recorded.

Confidentiality

All information collected will be confidential and only be used for the above research purpose. Your identity will remain anonymous and only the researcher will know your identity. Whenever data from this study will be published, your name will not be used. The data from this study will only be accessible to the researcher.

Contacts and Questions

If you have any questions about this study, please contact:

Joyce Kling Soren at joyce@hum.ku.dk or tel: 25322776.

or

Associate Professor Birgit Henriksen

PhD Supervisor

Director of the Centre for Internationalisation and Parallel Language Use

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Statement of Consent

By signing below, I agree to participate in the PhD research study being conducted by Joyce Kling Soren at The Centre for Internationalisation and Parallel Language Use, University of Copenhagen, Faculty of Humanities, ENGEROM.

Participant signature:_____Date:_____

Appendix G: (CD-ROM)

The transcripts on which the analysis is based can be found on the CD-ROM

1. Observation transcripts (confidential) – 10 files
2. Stimulated recall transcripts – 10 files
3. Semi-structured interview transcripts –10 files